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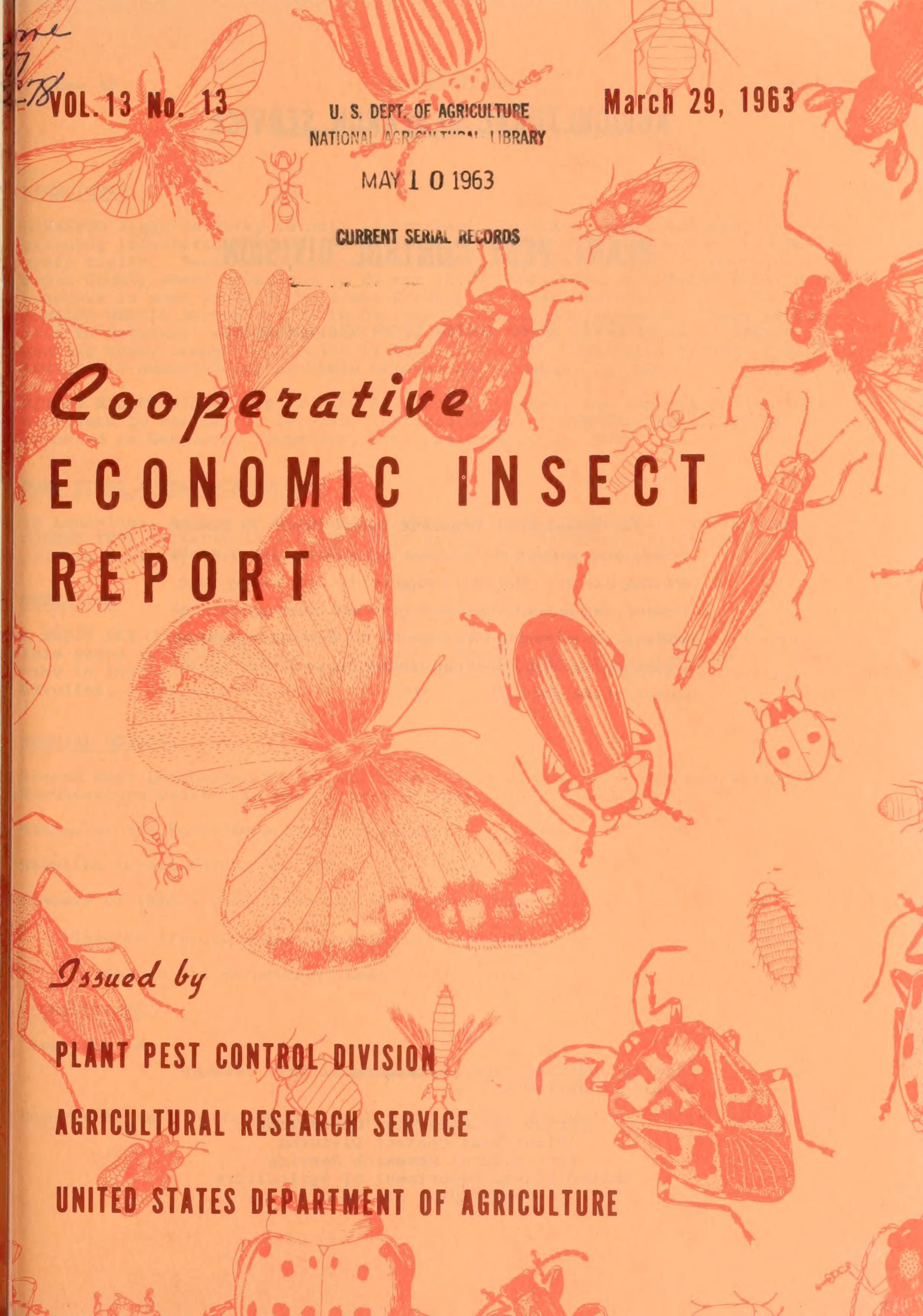

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Cooperative
ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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Survey and Detection Operations
Plant Pest Control Division
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Volume 13 March 29, 1963 Number 13

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

GREENBUG light to heavy on oats in northern Louisiana; and scattered, spotted greenbug infestations appear to be building up again in Lea County, New Mexico, grain fields. Pest continues noneconomic in Oklahoma, except in portions of Bryan County where counts up to 40 per linear foot reported. BROWN WHEAT MITE numerous in some areas of Baca and Prowers Counties, Colorado. (p. 279). ALFALFA WEEVIL larvae active in Georgia, Alabama and Tennessee. Eggs being laid in Delaware, and adults active in central Utah. A complex of APHIDS causing heavy damage to alfalfa in Bossier Parish, Louisiana; SPOTTED ALFALFA APHID most numerous and probably causing most damage. (p. 280).

BITING MIDGES widespread in Fort Bend County, Texas, and causing considerable annoyance to residents. (p. 285). Winged forms of SUBTERRANEAN TERMITES reported in Maryland, Tennessee, Utah and Oregon. (p. 287).

SOME FIRST APPEARANCE RECORDS

In Louisiana, adults of BEAN LEAF BEETLE and PLUM CURCULIO active, and eggs of FOREST TENT CATERPILLAR and BUCK MOTH hatching. In Texas, larvae of tent caterpillars emerging from egg masses in several central counties.

DETECTION

A FRUIT FLY (Rhagoletotrypeta sp.) collected in New Jersey; first occurrence of this genus in North America. (p. 281). ASIATIC OAK WEEVIL reported for first time in Indiana. (p. 305). IMPORTED FIRE ANT found in Cumberland County, North Carolina; a new county record. (p. 288).

SPECIAL REPORTS

Second Beet Leafhopper Survey in Desert Areas of Southern Utah and Nevada, Southeastern California and Central Arizona. (pp. 282-283).

Status of the Screw-worm in the Southwest. (p. 286).

Hawaiian Insect Notes. (p. 290).

Summary of Insect Conditions in the United States - 1962

Insects Affecting Man and Animals - (p. 291).

Household and Structural Insects - (p. 304).

CORRECTIONS

See page 288.

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Reports in this issue are for week ending March 22, unless otherwise indicated.

WEATHER OF THE WEEK ENDING MARCH 25

Most of the Nation experienced the passage of only one major storm system during the period. Early warmth gave way to midweek cooling east of the Rockies as a storm moved east-northeastward from New Mexico on the 18th, and over New England to sea on the 20th. Coastal Washington had precipitation daily from a Pacific storm that gave moderate rains to much of California on the 22d and 23d. This system was weaker than its predecessor, but extended its influence through the central Plains States from the Great Lakes to the southern Rockies by the 24th.

Daily maxima reached 90° in northern Texas and interior South Carolina on the 18th. Laredo, Texas, heated to 96° the same day. Miami Beach, Florida, with 91°, set a new monthly record on the 20th but, by the 22d, the first full day of spring, freezing temperatures briefly frosted the more susceptible northern locales of that State. However, the 23d was a record-setting day in the Midwest, where Sioux Falls, South Dakota, logged the highest ever so early, with an 80° maximum.

East of the Mississippi River, weekly temperature averages were mostly near normal. The largest subnormal departure was 6° reported from Burlington, Vermont, where the cold spell was broken on the 24th. Near normal and slightly deficient averages were recorded from New Mexico through California. Elsewhere, departures were significantly above normal. Four stations in the northern Great Plains reported departures of 16° above normal.

Little or no precipitation fell over the lower Colorado River Basin, the northern and southern Great Plains, and southern Florida. Only light amounts fell elsewhere over the Far West, except the West Coast States where totals exceeded 2 inches along the Pacific Northwest coast. Inland amounts ranged to near 1 inch in the Cascades and Coastal Ranges.

From the Great Plains eastward, very little precipitation fell after midweek, but thunderstorms and showers early in the period gave moderate to heavy totals from the central Plains over the Ohio Valley and much of the Appalachians. Hailstones to 1½ inches in diameter fell at Milwaukee, Wisconsin, on the 19th during the passage of a squall line. On the same day, tornadoes in Indiana resulted in two deaths and various other damage. Reports from Minnesota and Wisconsin gave snowfalls to 11 inches as the system passed on the 19th. The area of heaviest rainfall was West Virginia where heavy snowfall in the mountains succeeded the rains, and Canaan Valley reported a 13-inch snow depth on the 22d. Precipitation totals ranged to 1 inch in most areas of the Northeast, except Maine. However, snow depths still measure up to 4 feet in northern and central areas of the latter State. (Summary supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

ARMY CUTWORM (*Chorizagrotis auxiliaris*) - TEXAS - Spotted infestations remain fairly general in wheat over panhandle area. Counts ranged up to 12 per foot of drill row in Ochiltree County. (Texas Coop. Rpt.). Most recently reported in Swisher County where controls being applied in some instances. (Holloway). OKLAHOMA - Activity declined in northwest and panhandle areas; counts less than 2 per linear foot. Most larvae full grown; no further trouble expected. (Okla. Coop. Sur.).

CUTWORMS - COLORADO - Have not been present in economic numbers in southeast area. Ranged 0-2 per 5 linear feet of drill row. (Jenkins). ARIZONA - Unspecified cutworms and webworms appearing in lawns in Salt River Valley. (Ariz. Coop. Sur.). TEXAS - Larvae of several species, primarily *Peridroma saucia*, averaged one per square foot in some home lawns in Brazos County. (Newton).

SOUTHWESTERN CORN BORER (*Zeadiatraea grandiosella*) - LOUISIANA - Diapausing larvae present in 220 of 667 girdled stalks examined at random in corn fields in Catahoula, Franklin, Richland, West Carroll, Morehouse, Union, Claiborne and Bienville Parishes; none had pupated. (Newsom).

SUGARCANE BORER (*Diatraea saccharalis*) - LOUISIANA - Overwintering mortality 96 percent. (Newsom).

EUROPEAN CORN BORER (*Ostrinia nubilalis*) - LOUISIANA - Small number of diapausing larvae collected from one field in Morehouse Parish. (Newsom).

GREENBUG (*Schizaphis graminum**) - LOUISIANA - Light to heavy on oats in northern parishes; approximately 25 percent plant destruction noted in one Webster Parish field. Wheat in same areas lightly infested. (Newsom). ARKANSAS - Surveys negative in northwest area. (Ark. Ins. Sur.). OKLAHOMA - Continues at noneconomic levels throughout State except in portions of Bryan County (south central) where counts up to 40 per linear foot reported. Other counts per linear foot by area were: Southwest, 3-12; west central, 0-5; east central, 0-10; southeast, 4. (Okla. Coop. Sur.). NEW MEXICO - Scattered, spotted infestations appear to be building up again in Lea County grain fields. Counts ranged 6-20 per linear foot. (N. M. Coop. Rpt.).

APPLE GRAIN APHID (*Rhopalosiphum fitchii*) - CALIFORNIA - Populations on barley plantings medium in Mendota and heavy in Five Points, Fresno County; ranged light to medium in Riverside County. (Cal. Coop. Rpt.). OKLAHOMA - Only occasional specimens noted in east central area; counts of 1-6 per linear foot observed in southwest. (Okla. Coop. Sur.).

CORN LEAF APHID (*Rhopalosiphum maidis*) - OKLAHOMA - Light counts noted on barley and oats; 2-6 per linear foot in southeast and 6 per linear foot in southwest. (Okla. Coop. Sur.). NEW MEXICO - Generally light in Lea County barley fields. Ranged 10-15 per linear foot in fields checked. (N. M. Coop. Rpt.). ARIZONA - Small numbers appearing on small grains; however, no damage apparent. (Ariz. Coop. Sur.).

ENGLISH GRAIN APHID (*Macrosiphum avenae**) - OKLAHOMA - Most common aphid species observed in wheat fields checked throughout east central area. Only light counts per linear foot observed as follows: East central, 5-25; southwest, 3-10; southeast, 1. Only occasional specimens observed in west central area. (Okla. Coop. Sur.).

BROWN WHEAT MITE (*Petrobia latens*) - COLORADO - Numerous in some areas of Baca and Prowers Counties; ranged 0-15 per linear foot of drill row. Economic importance of populations will be dependent on moisture available for plant growth. (Jenkins).

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* See CEIR 13(5):84.

WINTER GRAIN MITE (Penthaleus major) - LOUISIANA - Populations light on oats in Bossier Parish. (Newsom). OKLAHOMA - Light population of 20 per linear foot noted in Tillman County (southwest). (Okla. Coop. Sur.).

RED HARVESTER ANT (Pogonomyrmex barbatus) - OKLAHOMA - Becoming active in Stillwater area, Payne County. (Okla. Coop. Sur.).

SNAILS - OREGON - Oxychilus alliarius, or perhaps O. dreparnaldi, have been reported as abundant in a Polk County pasture area during mid-March. (Capizzi).

ALFALFA WEEVIL (Hypera postica) - DELAWARE - First spring-laid eggs noted in old alfalfa stems in New Castle County March 18. (Burbutis). TENNESSEE - Eggs beginning to hatch in many locations in infested area of State with advent of warm weather. Weather conditions will determine how soon general emergence will occur. Continued warm weather will bring about rapid emergence. (Mullett). Some larvae present in Robertson County. (Bennett). GEORGIA - First and second-stage larvae present in alfalfa in Gordon County, with 25 percent of plants showing feeding injury. (Johnson). Full-grown larvae present in Griffin area, Spalding County. (Tippins). ALABAMA - First occurrence of season noted March 13 in Madison County and March 15 in Morgan County. Two specimens taken at each location from an approximate 5-square-foot area of alfalfa examined. (Howell, Smith). COLORADO - Has not been observed in alfalfa in southeast area. Plant growth just beginning. (Schweissing, Jenkins). UTAH - Adults active in several central area localities; treatments have been applied. (Knowlton).

CLOVER LEAF WEEVIL (Hypera punctata) - LOUISIANA - Larvae present in clover in low numbers throughout State. (Newsom). UTAH - Active in alfalfa at Sandy, Salt Lake County. (Knowlton).

CLOVER HEAD WEEVIL (Hypera meles) - LOUISIANA - Averaged 2 per 100 sweeps on crimson clover in northern parishes. (Newsom).

LESSER CLOVER LEAF WEEVIL (Hypera nigrirostris) - ALABAMA - Approximately 10 acres of white clover in Tallapoosa County showed 80 percent damage by this species. (Buttram).

CLOVER ROOT CURCULIO (Sitona hispidula) - LOUISIANA - Averaged 3 per 100 sweeps on crimson clover. (Newsom).

BEAN LEAF BEETLE (Cerotoma trifurcata) - LOUISIANA - Appeared on soybeans in East Baton Rouge Parish and on crimson clover in several northern parishes. (Newsom).

PEA APHID (Acyrthosiphon pisum*) - ARIZONA - Continues a problem on alfalfa in all lower elevation counties; now appearing in Pima County. (Ariz. Coop. Sur.). NEW MEXICO - Populations remain light in alfalfa near Artesia, Eddy County, and Belen, Valencia County. (N. M. Coop. Rpt.). OKLAHOMA - Light to moderate in alfalfa in east central area; counts range from fewer than 10 per 10 sweeps in Muskogee area to 150-250 per 10 sweeps in Ft. Smith area. Counts of 100 per sweep reported from a field in Kiowa County with additional counts of 15-30 per foot of drill row in same county and 40 per square foot of crown area in Tillman County. Populations of 8-20 per 10 sweeps observed in Choctaw County. (Okla. Coop. Sur.). ARKANSAS - Surveys in northwest area showed less than one aphid per square foot. (Ark. Ins. Sur.).

SPOTTED ALFALFA APHID (Therioaphis maculata) - LOUISIANA - A complex composed of this species, PEA APHID (Acyrthosiphon pisum*) and COWPEA APHID (Aphis craccivora) heavily damaging alfalfa in Bossier Parish. T. maculata is present in heaviest numbers and probably causing most of damage. (Newsom). ARKANSAS - Surveys negative in northwest part of State. (Ark. Ins. Sur.). OKLAHOMA - Populations of 25 per square foot of crown area noted in Tillman County. Only occasional

* See CEIR 13(5):84.

specimens found in southeast, east central and south central areas. (Okla. Coop. Sur.). COLORADO - Has not been found on alfalfa in southeast area. (Schweissing, Jenkins).

LYGUS BUGS (Lygus spp.) - NEW MEXICO - Adults ranged 3-12 per 100 sweeps in alfalfa and wheat fields in Curry County. (N. M. Coop. Rpt.). UTAH - Several species, largely L. elisus, active in alfalfa at Sandy, Salt Lake County. (Knowlton).

THRIPS - ALABAMA - Unspecified species abundant on approximately 10 acres of white clover in Tallapoosa County. (Buttram).

FRUIT INSECTS

EASTERN TENT CATERPILLAR (Malacosoma americanum) - TEXAS - Larvae beginning to emerge from overwintering egg masses on fruit trees in most all areas of State. Heavy infestations appear probable in many instances. (Texas Coop. Rpt.). LOUISIANA - Webs common on untreated fruit trees throughout State. Larvae in fourth stage in Baton Rouge area. (Newsom).

AMERICAN PLUM BORER (Euzophera semifuneralis) - CALIFORNIA - Populations heavy in plum trees in Loomis area, Placer County. (Cal. Coop. Rpt.).

PLUM CURCULIO (Conotrachelus nenuphar) - LOUISIANA - Light activity on plum began week of March 11 in East Baton Rouge Parish. (Newsom).

A WEEVIL (Pandeleteius cinereus) - TEXAS - Moderate, local populations in Mason County damaging apricot trees by excavating buds. (Garrett).

SAN JOSE SCALE (Aspidiotus perniciosus) - FLORIDA - Infesting pear (Pyrus communis) at Largo, Pinellas County (March 19). (Fla. Coop. Sur.).

A SNOWY TREE CRICKET (Oecanthus sp.) - OREGON - Unusual incidence of oviposition injury on apples and cane fruits in Willamette Valley; amount of injury exceeds that observed in past 15 years. (Every).

A FRUIT FLY (Rhagoletotrypeta sp.) - NEW JERSEY - Specimens of an undescribed species obtained from sticky board traps August 2, 1962, in Camden area, Camden County. Flies obtained during program to detect entrance of new fruit fly species into State. Following find of this fruit fly in Camden area, fruits were gathered from many possible host plants in area of trapping site. Pupae produced from larvae which emerged from collected fruit being held. Adults from these pupae will be identified in an effort to determine possible hosts of Rhagoletotrypeta in the State. This is the first occurrence of this genus in North America. Det. by R. H. Foote. (Swift).

A PIT SCALE (Asterolecanium pustulans) - FLORIDA - Ranged moderate to severe on fig (Ficus carica) at Holly Hill, Volusia County (March 12). (Fla. Coop. Sur.).

CITRUS BLACKFLY (Aleurocanthus woglumi) - MEXICO - Biological Control Zone - Inspection of 29,893 trees on 31 properties indicates 585 trees on 6 properties infested in Municipios of Hidalgo, Guemez and Villagran in State of Tamaulipas. No infestation found in Municipio Villagran which borders on chemical control zone in State of Nuevo Leon. Spot checks in Llera, Tamaulipas, of several groves heavily infested about one year ago indicate parasites reduced infestation to point of difficulty in detecting leaf with live specimens. Apparently present level of infestation in Tamaulipas zone is lowest of several years due to efficient biological control. Additional 120 infested trees found in City of Merida, Yucatan; 5,000 specimens of a parasitic eulophid (Prospaltella opulenta) released. Additional surveys being made in that State. Fluctations in parasitism occurred in State of Colima during recent months; parasitism percentage increased recently.

Parasites available in other areas of State liberated in distressed locations. Infestations in Territory of Baja California very light and apparently well controlled by a parasitic platygasterid (Amitus hesperidum) and P. opulenta. Chemical Control Zone - First infestation in approximately 1 year found at Linares, Nuevo Leon, February 1; infestation light. Second, light infestation found in neighboring grove 2 days later. Treatment begun immediately. Inspection of 192,275 citrus trees on 3,203 properties reveals 20 trees lightly infested, with a total of 142 leaves infested on 2 properties at Linares, Nuevo Leon. Total includes 79,783 nursery trees. First treatment applied to 3,950 trees on 17 properties and second to 53,391 trees on 77 properties at Allende and Linares, Nuevo Leon; included in total were 45,100 nursery trees. (PPC, Mex. Reg., Feb. Rpt.).

MEXICAN FRUIT FLY (Anastrepha ludens) - TEXAS - Ten specimens recovered from traps in Hidalgo County and 1 each from Starr and Cameron Counties; trapping involved 1,300 traps. (PPC, South. Reg., Feb. Rpt.).

CITRUS RUST MITE (Panonychus citri) - FLORIDA - Severe on kumquat (Fortunella margarita) at Fairvilla, Orange County (March 15). (Fla. Coop. Sur.).

A CERAMBYCID BEETLE - NORTH CAROLINA - Larvae of an undetermined species apparently damaged stems of blueberry at a location in Mitchell County. (Jones).

TRUCK CROP INSECTS

LEAFHOPPERS - TEXAS - Activity of several species increasing in Zavala County; some damage occurring to beans, potatoes, cantaloups and tomatoes. (Harding).

A FALSE WIREWORM - TEXAS - Heavy, local populations of an undetermined species damaging garden vegetables in Gillespie County. (Newton).

CUCUMBER BEETLES (Diabrotica spp.) - TEXAS - D. undecimpunctata howardi populations building up on potatoes in Zavala County; light damage becoming noticeable. (Harding). LOUISIANA - Adults of D. balteata ranged up to 4 per 100 sweeps on white and sweet clovers in southern portion of State. (Newsom).

A TORTOISE BEETLE (Gratiana pallidula) - TEXAS - Adults numerous on eggplant in Zavala County; damage becoming evident. No egg deposition noted. (Harding).

GREEN PEACH APHID (Myzus persicae) - ARIZONA - Beginning to appear on potatoes. (Ariz. Coop. Sur.).

POTATO PSYLLID (Paratrioza cockerelli) - ARIZONA - Present on edges of most potato fields. Controls being applied in most instances. (Ariz. Coop. Sur.).

CABBAGE SEEDPOD WEEVIL (Ceutorhynchus assimilis) - CALIFORNIA - This species and Brevicoryne brassicae medium on yellow mustard in Loomis, Placer County. (Cal. Coop. Rpt.).

Second Beet Leafhopper Survey in Desert Areas of Southern Utah and Nevada, Southeastern California and Central Arizona - March 4 - 13, 1963

Information obtained during second survey in March indicates further buildup of BEET LEAFHOPPER (Circulifer tenellus) populations in southern breeding grounds in areas lying to the south of the 34 degree parallel.

Leafhopper movement from these desert areas to cultivated districts of central and southern Arizona, southeastern California, southern Nevada, and southern Utah expected to be light to moderate; movement to central and northern Utah light; movement to eastern Utah and western Colorado moderate, with possibly a few heavy concentrations due to effects of local topography of migratory leafhopper populations. (Continued on page 283).

This forecast covers beet leafhopper movement from only the area surveyed and does not have reference to populations that may have overwintered in local breeding areas. This will be final report covering beet leafhopper conditions in the desert areas mentioned. (PPC, West. Reg.).

A THRIPS (Frankliniella occidentalis) - TEXAS - Local infestations in Zavala County average 160 per 10 onion plants. (Harding).

THRIPS - ARIZONA - Spotted wilt on lettuce appearing in Maricopa and Yuma Counties. Transmitted by a species of this group. (Ariz. Coop. Sur.).

APHIDS - ARIZONA - Continue a problem on lettuce in Salt River Valley. Very poor controls being secured by several of recommended insecticides. Weather conditions ideal for reproduction of aphids and not too conducive for production of parasites. (Ariz. Coop. Sur.).

SWEETPOTATO WEEVIL (Cylas formicarius elegantulus) - Three new infested properties found in Tangipahoa Parish, LOUISIANA, and 1 in St. Helena Parish; 22 properties released from regulation in State during month, including last known infestations in East Feliciana and West Feliciana Parishes. All storage and bed inspections in ALABAMA negative. Inspections in 15 counties in GEORGIA revealed 6 newly infested properties; 26 properties released from regulation. Nonplanting zone at James Island and Edisto Beach, Charleston County, SOUTH CAROLINA, released from regulation. (PPC, South. Reg., Feb. Rpt.).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - CALIFORNIA - Heavy populations developing on strawberry plantings in El Segundo area, Los Angeles County. All stages present. (Cal. Coop. Rpt.).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

ENGRAVER BEETLES (Ips spp.) - TEXAS - Active infestations of I. avulsus, I. grandicollis and I. calligraphus reported from Hardin, Harris and Liberty Counties. (Texas For. Pest Comm., Feb. Rpt.).

A SUBTERRANEAN TERMITE (Reticulitermes virginicus) - FLORIDA - Extensive infestation present in basal portion of trunk section of a living longleaf pine (Pinus palustris) at Gainesville, Alachua County (March 14). Det. by L. A. Hetrick. (Fla. Coop. Sur.).

FOREST TENT CATERPILLAR (Malacosoma disstria) - TEXAS - Larvae of this species and Malacosoma sp. (probably texanum) emerging from egg masses on oak trees in several central counties. Preliminary observations indicate that populations may be higher than those present during severe outbreak in 1962. (Newton). LOUISIANA - Eggs hatching in Baton Rouge area of East Baton Rouge Parish. (Newsom).

GYPSY MOTH (Porthetria dispar) - Laboratory test in NEW HAMPSHIRE indicates that eggs collected at Red Hill, near Squam Lake, about 40 percent parasitized by an ENCYRTID (Ooencyrtus kuwanai). Reports in Franklin, Chittenden and Grand Isle Counties, VERMONT, indicate decrease in intensity of infestation. Egg clusters found in several industrial locations in western MASSACHUSETTS. Nursery scouting in CONNECTICUT completed. A few new infestations and some extensions of previously known infestations found in NEW YORK in Rockland County. Survey in Nassau County, Long Island, revealed infestations at 20 locations, 9 in Oyster Bay Township, 8 in North Hempstead Township and 3 in Hempstead Township; infestations range 1-8 egg clusters. Egg mass survey continued in NEW JERSEY. Total of 18 egg masses encountered, 8 found in February in Bergen, Passaic, Morris and

Sussex Counties. (PPC East. Reg., Feb. Rpt.).

BROWN-TAIL MOTH (*Nygmia phaeorrhoea*) - New infestation consisting of estimated 300 winter webs over approximately 10 acres found in southeastern portion of Francestown Township, Hillsboro County, NEW HAMPSHIRE. Infestations still active in Weare, Northwood, Epom and Hooksett Townships. Two additional small infestations found at Deer Island and Provincetown, MASSACHUSETTS; webs previously found at Plum Island and Truro, Massachusetts. Surveys in RHODE ISLAND and CONNECTICUT negative to date. (PPC, East. Reg., Feb. Rpt.).

BUCK MOTH (*Hemileuca maia*) - LOUISIANA - Eggs hatching in Baton Rouge area, East Baton Rouge Parish. (Newsom).

A PLANT BUG (*Neoborus illitus*) - CALIFORNIA - Nymphs and adults medium on elm trees in Colusa, Colusa County. (Cal. Coop. Rpt.).

A GALL WASP (*Callirhytis suttoni*) - CALIFORNIA - Heavy populations damaging local oak trees in San Rafael, Marin County. Infestations have been building up over past few years and are now weakening trees to point that owners are concerned about losing the trees. (Cal. Coop. Rpt.).

JUNIPER WEBWORM (*Dichomeris marginella*) - OREGON - Injuring ornamental juniper in Roseburg area, Douglas County. (Parker, March 15).

A JUNIPER TWIG GIRDLER (*Periploca nigra*) - CALIFORNIA - Larvae heavy in juniper shrubs in Lafayette, Contra Costa County. (Cal. Coop. Rpt.).

DEODAR WEEVIL (*Pissodes nemorensis*) - LOUISIANA - Destroying nursery planting of black pine in St. Tammany Parish. (Newsom).

GREEN PEACH APHID (*Myzus persicae*) - ARIZONA - Populations increasing on shrubs in all parts of Salt River Valley. (Ariz. Coop. Sur.).

APHIDS - OKLAHOMA - Several species active on ornamental shrubs in Cleveland County area (central). (Okla. Coop. Sur.). CALIFORNIA - *Myzus ornatus* medium on pansy plants in Los Osos, San Luis Obispo County. (Cal. Coop. Rpt.).

COTTONY-CUSHION SCALE (*Icerya purchasi*) - LOUISIANA - Severely damaging pittosporum in Baton Rouge area, East Baton Rouge Parish. (Newsom). ARIZONA - Infesting shrubs in Globe, Gila County, and in Safford, Graham County. (Ariz. Coop. Sur.).

Coccids in Florida - *Asterolecanium pustulans* moderately infested Florida trema and *Murraya paniculata* at Miami, Dade County (Feb. 22), and severely infested *Nerium* sp. at Holly Hill, Volusia County (March 13). *Ceroplastes cirripediformis* was severe on *Gardenia* sp. at Auburndale, Polk County (March 11). *Comstockiella sabalis* was moderate on Sabal palmetto at Grant, Brevard County (March 11), and at Holly Hill (March 12). *Fiorinia theae* ranged moderate to severe on *Camellia japonica* at Fairvilla, Orange County (March 14), and on *Ilex* sp. at Cocoa, Brevard County (March 15). *Aspidiotus lataniae* was moderate on 1,000 *Rhododendron* sp. at Leesburg, Lake County (March 1). *Phenacaspis cockerelli* was moderate on *Michelia fuscata* at Inverness, Hendry County (March 13), and ranged moderate to severe on *Magnolia grandiflora* at Fairvilla (March 14). *Pinnaspis aspidistrae* severely infested fern at Bartow, Polk County (March 14). *Protopulvinaria pyriformis* was moderate on *Gardenia* sp. at Cocoa (March 15). *Pseudaulacaspis pentagona* severely infested *Diosypros* sp. at Glen St. Mary, Baker County. *Pseudococcus adonidum* was moderate on *Dieffenbachia picta* at Holly Hill (March 12) and ranged moderate to severe on *Monstera deliciosa* at Lockhart, Orange County (March 8). *Aspidiotus perniciosus* was severe on *Chaenomeles* sp. at Glen St. Mary (March 13). (Fla. Coop. Sur.).

NATIVE HOLLY LEAF MINER (*Phytomyza ilicicola*) - MARYLAND - Heavy mining noted on American holly at University Park, Prince Georges County. (U. Md., Ent. Dept.).

A GALL MIDGE (*Cecidomyia* sp.) - MARYLAND - Galls found on dogwood at Baltimore. (U. Md., Ent. Dept.).

SOUTHERN RED MITE (*Oligonychus ilicis*) - LOUISIANA - Heavy on azalea and camellia throughout southern part of State. (Newsom). FLORIDA - Severely infested firethorn (*Pyracantha coccinea*) at Fairvilla, Orange County (March 14). (Fla. Coop. Sur.).

SPIDER MITES - FLORIDA - *Eotetranychus sexmaculatus* severely infested azalea (*Rhododendron indicum*) at Fairvilla, Orange County (March 14). *Tetranychus tumidus* moderately infested 5,000 schefflera at Sebring, Highlands County (March 4). (Fla. Coop. Sur.).

A PHYTOSEIID MITE (*Phytoseiulus macropilis*) - FLORIDA - Severely infested 400 azaleas (*Rhododendron indicum*) at Fairvilla, Orange County (March 14). (Fla. Coop. Sur.).

SNAILS - OREGON - Snail collections made since January 1 in Portland greenhouses have been determined by G. Dallas Hanna, California Academy of Science, as *Helix aspersa* and *Oxychilus alliarius*. (Capizzi). TEXAS - Light, widespread populations of snails and sowbugs in Guadalupe County damaging young ornamental plants in many yards. (Texas Coop. Rpt.; Massey).

INSECTS AFFECTING MAN AND ANIMALS

CATTLE GRUBS (*Hypoderma* spp.) - MICHIGAN - Infestation moderate in some untreated herds in Ingham County. (Dowdy, March 15). OKLAHOMA - *H. lineatum* adult activity reported in Cotton, Choctaw and Payne Counties. (Okla. Coop. Sur.). NORTH CAROLINA - *H. bovis* larvae collected on March 15 and 21 in Ashe County. Total of 6 larvae collected from backs of cattle. Det. by D. A. Mount. (Jones, Dillard).

HORN FLY (*Haematobia irritans*) - OKLAHOMA - Adults occasionally active on cattle in Payne County area. (Okla. Coop. Sur.).

MOSQUITOES - DELAWARE - *Aedes canadensis* larvae, mostly second stage, common in some areas of New Castle County. (R. W. Lake). *Anopheles punctipennis* adults collected March 9 in northern New Castle County. (F. Murphey). TEXAS - Adults observed in Jefferson County during February included *Culiseta inornata*, *Anopheles crucians* and *Culex salinarius*. Low numbers involved and little annoyance resulted. (Jeff. Co. Mosq. Contr. Comm., Feb. Rpt.).

A BITING MIDGE (*Culicoides* sp.) - TEXAS - Widespread in Fort Bend County and causing considerable annoyance to residents. (Texas Coop. Rpt.; Matheny).

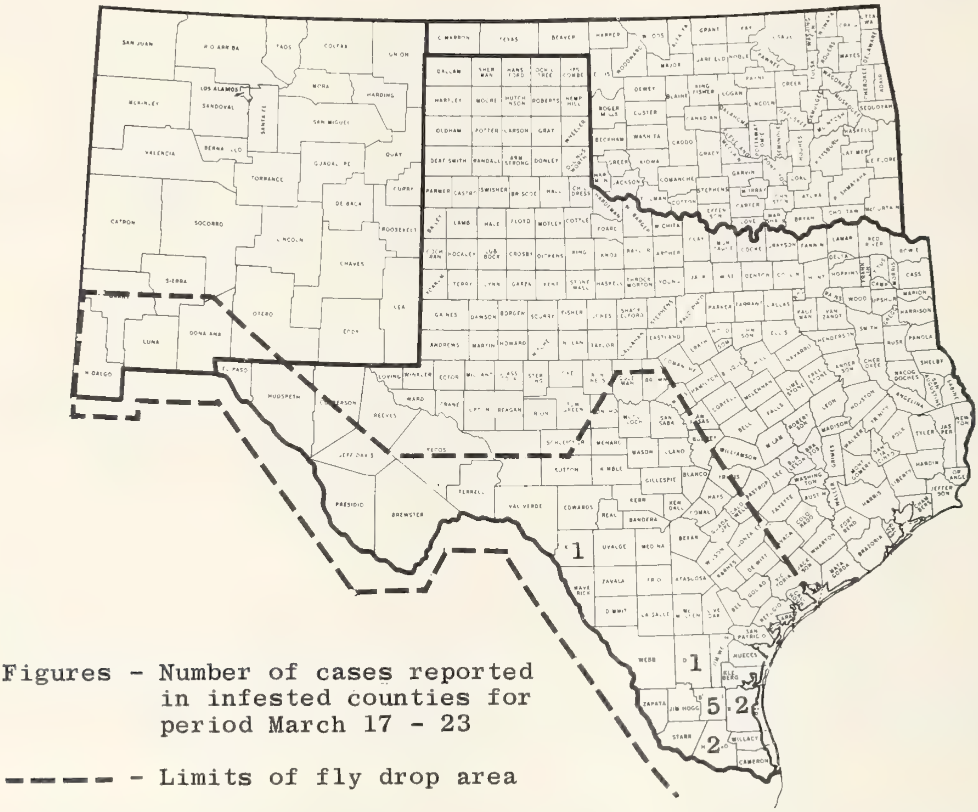
CATTLE LICE - NEW MEXICO - Moderately heavy on yearling calves at ranch near Crossroads, Lea County. (N. M. Coop. Rpt.). UTAH - Severe on some beef cattle in Mona area of Juab County, on some herds in Kane County and in western Box Elder County; 500 cattle dipped and 1,550 sprayed in Juab County. (Knowlton, Esplin). OKLAHOMA - Activity of several species continues light to heavy throughout State. (Okla. Coop. Sur.).

HOG LOUSE (*Haematopinus suis*) - OKLAHOMA - Heavy on hogs, especially young pigs, in Blaine County; controls initiated. (Okla. Coop. Sur.).

BROWN DOG TICK (*Rhipicephalus sanguineus*) - NEVADA - Light in home in Reno, Washoe County. (Bechtel, Lauderdale). FLORIDA - Collected in yard at Key West, Monroe County. (Buchanan, Mar. 7).

STATUS OF THE SCREW-WORM (*Cochliomyia hominivorax*) IN THE SOUTHWEST

During the period March 17-23, a total of 11 cases were identified. An additional screw-worm case was found in Kinney County, TEXAS, about 20 miles from the Rio Grande and about 20 miles from the previously reported Kinney County case. Screw-worm was also found during this period in Brooks, Kenedy, Hidalgo and Duval Counties. The specimen from Duval County is the first from that county since January 17, 1963. A total of 98 million sterile screw-worm flies was released during this period. (Anim. Dis. Erad. Div.).



Figures - Number of cases reported in infested counties for period March 17 - 23

– – – – - Limits of fly drop area

STORED-PRODUCT INSECTS

INDIAN-MEAL MOTH (*Plodia interpunctella*) - OKLAHOMA - Infesting stored products in Stillwater area, Payne County. (Okla. Coop. Sur.).

HIDE BEETLE (*Dermestes maculatus*) - NORTH CAROLINA - Infested hams in hamhouse at a location in Alamance County. (Jones).

HOUSEHOLD AND STRUCTURAL INSECTS

FURNITURE CARPET BEETLE (*Anthrenus flavipes*) - MARYLAND - Adults and larvae appeared in several Prince Georges County homes. (U. Md., Ent. Dept.). TEXAS - Locally heavy in Brazoria County home; caused great damage to furniture and carpets. (Newton).

A POWDER-POST BEETLE (*Lyctus brunneus*) - MARYLAND - Heavily infested bamboo curtain in Baltimore County home. (U. Md., Ent. Dept.).

BOXELDER BUG (*Leptocoris trivittatus*) - MARYLAND - Caused a nuisance by congregating on and in homes in Anne Arundel and Montgomery Counties. (U. Md., Ent. Dept.). UTAH - Invading offices and halls in Utah State University at Logan, Cache County. Entering a number of homes in Holladay-East Mill Creek area, Salt Lake County. (Knowlton).

FIREBRAT (*Thermobia domestica*) - MICHIGAN - Light infestation observed in a Berrien County motel. (Dowdy, March 15).

CLOVER MITE (*Bryobia praetiosa*) - NEVADA - Large numbers continue to enter homes in Reno-Sparks area, Washoe County. (Lauderdale). UTAH - Entering homes in Provo, Utah County. (Knowlton). NORTH CAROLINA - Heavy in home in Davie County (Wray). MARYLAND - Caused a nuisance entering homes in Anne Arundel and Prince Georges Counties and at Baltimore. (U. Md., Ent. Dept.).

SUBTERRANEAN TERMITES - MARYLAND - *Reticulitermes* sp. winged forms swarmed in house at Lusby, Calvert County. (U. Md., Ent. Dept.). TENNESSEE - Unspecified species noted swarming in houses; many inquiries expected. (Mullett). FLORIDA - First winged reproductives of *Reticulitermes virginicus* of season collected at Pensacola, Escambia County, March 9. (Fla. Coop. Sur.). UTAH - Unspecified species severely damaged older home at Logan, Cache County. (Knowlton). OREGON - Winged forms of *Reticulitermes hesperus* observed in Madras, Jefferson County, week of March 17. (Bierly).

ANTS - SOUTH DAKOTA - *Formica* sp. emerged from walls of ranch house in Harding County. House unoccupied during winter months but heated one day prior to emergence of winged forms. (Spawn). MICHIGAN - Winged adults of *Camponotus* sp. reported emerging from houses in Ingham County. (Dowdy, March 15). NORTH CAROLINA - *Crematogaster ashmeadi* winged forms present in large numbers in Wake County home March 1. (Wray). TENNESSEE - Unspecified species noted swarming in homes; many inquiries expected. (Mullett).

BENEFICIAL INSECTS

LADY BEETLES - UTAH - Active at Logan, Cache County, and Pleasant Grove, Utah County. Mostly *Hippodamia* spp. (Knowlton). ARIZONA - *Hippodama convergens* now appearing; egg laying in progress. (Ariz. Coop. Sur.). OKLAHOMA - Several species becoming more common in alfalfa and small grains. (Okla. Coop. Sur.). ARKANSAS - Several species becoming active, although only few host species present upon which to feed. (Ark. Ins. Sur.). LOUISIANA - Light populations of *H. convergens*, *Coccinella novemnotata*, *Coleomegilla maculata fuscilabris*, *Cycloneda* sp. and *C. sanguinea* appearing throughout State. (Newsom).

PREDATORS - LOUISIANA - Populations of predators at lowest level ever observed for time of year; *Geocoris punctipes* most abundant species. (Newsom).

DAMSEL BUGS (*Nabis* spp.) - OKLAHOMA - Becoming more common in alfalfa and small grain fields. (Okla. Coop. Sur.). LOUISIANA - Light populations appearing throughout State. (Newsom).

GREEN LACEWINGS (*Chrysopa* spp.) - OKLAHOMA - Becoming more common in alfalfa and small grain fields. (Okla. Coop. Sur.). ARIZONA - *C. oculata* appearing; aphid populations may decline. (Ariz. Coop. Sur.).

HYMENOPTEROUS PARASITES - ARKANSAS - Activity gaining slowly. (Ark. Ins. Sur.).

MISCELLANEOUS INSECTS

GREATER WAX MOTH (*Galleria mellonella*) - ARKANSAS - Adults moth found outside a beehive in Mississippi County on March 20. This is evidence of successful overwintering of this species in extreme northeast part of State. (Warren).

APHIDS - CALIFORNIA - *Macrosiphum euphorbiae* and *Anuraphis bakeri* medium on cover crops in plum orchards at Reedley, Fresno County. Populations have not been as heavy this year, following cold winter, as at this time in past 3 years. (Cal. Coop. Rpt.).

POPLAR BORER (*Saperda calcarata*) - SOUTH DAKOTA - Specimen tentatively identified this species obtained from poplar firewood at Brookings, Brookings County. (Spawn).

A CERAMBYCID BEETLE (*Neoclytus conjunctus*) - CALIFORNIA - Adults heavy in residence in Oroville, Butte County. (Cal. Coop. Rpt.).

A "JEWELED" BEETLE - NEVADA - One live specimen of undetermined species confiscated in Las Vegas, Clark County. (Nichols).

CITRUS WHITEFLY (*Dialeurodes citri*) - CALIFORNIA - Few additional infestations being found in Sacramento, Sacramento County; some a considerable distance from original finds. Area of approximately 18 square miles now involved; includes 351 city blocks. Approximately 600 city blocks treated. With continued good weather, treatment expected to be completed prior to adult emergence. (Cal. Coop. Rpt.).

A SPRINGTAIL - MICHIGAN - Undetermined species caused some concern after first few days of above-freezing weather. (Dowdy, March 15).

A TACHINA FLY (*Cenosoma signiferum*) - FLORIDA - Collected in Steiner trap in calamondin tree in Miami, Dade County (Feb. 20). Det. by C. W. Sabrosky. This species is new to the Florida State Collection of Arthropods. (Fla. Coop. Sur.).

IMPORTED FIRE ANT (*Solenopsis saevissima richteri*) - Infestation found for first time in Cumberland County, NORTH CAROLINA, during February. Extensions to known infestations found in Carteret and Pamlico Counties. New find in Fayetteville, Cumberland County, now involves 7 city blocks; most mounds treated when found. Extensions found in Orangeburg and Horry Counties, SOUTH CAROLINA. Negative surveys made in Lee, Terrell, Jones, Dodge, Ben Hill, Tift and Wilcox Counties, GEORGIA; no active mounds found in treated block in Monroe County. Surveys in Lee County, MISSISSIPPI, reveal additional infested area; approximately 900 acres now infested. Appraisal survey of 2,000 acres in southern LOUISIANA revealed only 38 acres require retreatment. Negative survey made in 22 TENNESSEE counties during February. (PPC, South. Reg.).

CORRECTIONS

CEIR 13(10):184 - HIDE BEETLE (*Dermestes maculatus*) - ALABAMA - Should be changed to read as follows: Light infestations observed on imported fishmeal; approximately 178,000 two-hundred-pound bags in warehouse. Only 2 percent of these bags lightly infested. (Seibels).

CEIR 13(11): 232 and 240 - References to "A SMITHURID SPRINGTAIL (*Onychirus pseudarmatus*)" should read "A *PODURID* SPRINGTAIL".

LIGHT TRAP COLLECTIONS

	Pseud.	Agrot.	Feltia	Perid.	Prod.	Spodop.	Hiliothis	
	unip.	ips.	subterr.	saucia	ornith.	exigua	zea	vires.
FLORIDA								
Gainesville 3/19	3	3	9				1	1
Northeast Gainesville 3/19			37					
GEORGIA								
Tifton 3/14-20	No collections.							
MISSISSIPPI								
*Stoneville 3/15-21	56	19	3	77	22	6	3	
SOUTH CAROLINA								
Charleston 3/11-17	5	6	17		5			
Charleston 3/18-24	6	1	4		1			

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* Two traps - Stoneville.

HAWAIIAN INSECT NOTES

The following notes were submitted by the Hawaiian Entomological Society and were extracted from the "Notes and Exhibitions" in the minutes of the March 11, 1963, meeting.

An OLETHREUTID MOTH (Cryptophlebia ombrodelta) was recently determined by D. Davis from specimens reared from macadamia nuts from the Islands of Hawaii and Oahu. Other hosts reported for the first time for this pest are: Klu (Acacia farnesiana) July 1959, monkey-pod (Pithecellobium saman) April 1962, both from the Island of Oahu, and Cassia spp. in September 1962 from the Island of Hawaii. (Miss M. Chong).

SOUTHERN GREEN STINK BUG (Nezara viridula) nymphs were observed feeding on popolo fruit (Solanum nodiflorum) at Nonaka's farm, Wailua, Maui, on February 28. Feeding scars and shriveled fruits were noted. This is a new host record for this bug. (Miss M. Chong, C. Davis, J. Holloway, S. Au).

A FRUIT FLY (Tetraeuaresta obscuriventris) was introduced for the control of a noxious weed pest (Elephantopus mollis) on Kauai; a "population explosion" of this fruit fly was reported. (Miss M. Chong, S. Au).

A PUNCTURE-VINE WEEVIL (Microlarinus lareynii) was reported reared from the native nohu (Tribulus cistoides); it appears to be breeding continuously under Hawaiian conditions. (Miss M. Chong, S. Au).

Specimens of a FRUIT FLY (Tephritis sp.) were reared from galls on Dubautia sp. This is a new State record and the first time this genus has been reported as a stem miner. (Dr. E. Hardy).

SWEETPOTATO LEAF MINER (Bedellia orchilella) outbreaks over the years have been reduced due to the introduction of a parasitic braconid (Apanteles bedelliae) in 1945; by 1950, sweetpotato leaf miner was reduced to extremely low level. On February 15, 1963, sweetpotato leaf miner was found attacking sweetpotato at Waimano Home Road, Pearl City. This pest was heavily parasitized by A. bedelliae as evidenced by the large number of cocoons. (Dr. M. Sherman).

A FLESH FLY (Helicobia sp.) was abundant in a heavy infestation of lawn armyworm (Spodoptera mauritia acronyctoides) on the Kaanapali Golf Course at Lahaina, Maui. This appears to be a new parasite in the State. (F. A. Bianchi).

A BILLBUG (Sphenophorus venatus vestitus) completely killed several discrete areas of manienie grass (Cynondon dactylon) on the fairways of the Kaanapali Golf Course during the last few weeks. (F. A. Bianchi).

A BARK BEETLE (Xyleborus compactus) was found on avocado on January 4 on Keeaumoku Street in Honolulu; this constitutes a new host record. (J. Kajiwara).

New records for the Island of Molokai include a GELECHIID MOTH (Dichomeris sp.) on alfalfa, both larval and adult stages; a DELPHACID PLANTHOPPER (Chloriona kolophron) by sweeping grass; and a PLANT BUG (Rhinacloa forticornis) on alfalfa. These last 3 insects apparently have been present in Hawaii for a relatively short time, as all were reported in the State for the first time during the past 2 years. (J. W. Beardsley, Jr.).

SUMMARY OF INSECT CONDITIONS - 1962

(continued from page 270)

INSECTS AFFECTING MAN AND ANIMALS

Highlights:

MOSQUITO outbreaks in southeast Texas were the worst since 1948, and populations of SALT-MARSH MOSQUITO were heavier in the coastal areas of Louisiana than for several years. An epidemic of St. Louis encephalitis was reported in Florida; the third in the past four years. Various species of mosquitoes were rather abundant in the Plains States and in Colorado, Utah, New Mexico, Arizona and Nevada. Mosquito occurrence in California was variable, and populations in Alaska were much more annoying than in 1961. Complaints concerning mosquitoes in Ohio were the lowest in history, and mosquitoes were generally not troublesome in the Northeast although some local problems did exist.

FACE FLY continued to be a pest of cattle in all areas where the species occurs, but spread of the fly in 1962 decreased considerably compared with recent years. Only Rhode Island was reported as a new face fly-infested State in 1962. HOUSE FLY was bothersome during the year as usual, particularly in the Western States. HORN FLY, a major pest of cattle, was again annoying to cattle in many States from Pennsylvania and Maryland to Nevada. STABLE FLY also was a nuisance, and heavy counts were recorded in the Midwest. NORTHERN and COMMON CATTLE GRUBS were among the worst pests of cattle in Wyoming, and important pests of cattle in a number of other States. HORSE FLIES were generally more abundant in Louisiana during the spring and early summer than they have been since 1959, and _Tabanus lasiophthalmus_ caused considerable concern in Missouri. BLACK FLIES were much more annoying in Alaska than in 1961 and caused considerable annoyance in other areas of the country, particularly in northern sections. Some other flies that were reported as annoying in local areas were BITING MIDGES, EYE GNATS and SNIPE FLIES.

The SCREW-WORM eradication program in the Southwest, which was started early in the spring of 1961, was in full force before the end of the year. Each week, 50 to 75 million sterile flies were released over areas of southern and central Texas, southern New Mexico and northern Mexico. The eastern half of the United States had fewer screw-worms during 1962 than in any year since the livestock pest invaded the region 30 years ago. Only one infestation was reported east of the Mississippi River, and this was found in an animal shipped to Georgia from the Southwest.

TICKS were again a problem in 1962, with AMERICAN DOG TICK probably causing the greatest concern. SHEEP SCAB MITE has now been eradicated from many counties in several States.

MOSQUITO outbreaks in southeast _TEXAS_ were the worst since 1948. The species troublesome to residents and livestock included the following: SALT-MARSH MOSQUITO (_Aedes sollicitans_), _Aedes taeniorhynchus_, _Aedes vexans_, SOUTHERN HOUSE MOSQUITO (_Culex pipiens quinquefasciatus_), _Culex nigripalpus_, _Culex restuans_, _Culex salinarius_, _Culiseta inornata_, _Anopheles crucians_, _Psorophora confinnis_, _Psorophora ciliata_, _Uranotaenia lowii_ and others. In _LOUISIANA_, populations of salt-marsh mosquito were heavier in the coastal areas in June and July than they had been for several years.

The third epidemic of St. Louis encephalitis during the past four years occurred in *FLORIDA* in an area adjoining Tampa Bay involving Pinellas, Hillsborough, Manatee and Sarasota Counties. The 1962 outbreak in this area of Florida was centered in St. Petersburg, Pinellas County. There were 158 confirmed cases, 72 presumptive cases and 17 deaths. The epidemic began in late July and terminated in early October. The previous epidemics began later; late September in 1959 and late October in 1961. (Preceding information on Florida abstracted from Vector Control Briefs (Issue Number 8, November 1962), Communicable Disease Center, Public Health Service, U. S. Dept. of Health, Education and Welfare, Atlanta 22, Georgia).

Salt-marsh mosquito, *Aedes taeniorhynchus*, *Aedes atlanticus*, *Psorophora ferox* and *Culex salinarius* were abundant in coastal counties of *NORTH CAROLINA* following heavy rains during June, July and August. *P. confinnis* numbers were much lower than expected. In *MARYLAND*, an outbreak of *Aedes* spp. occurred on the Eastern Shore during May and June; however, salt-marsh species were generally not abundant in most sections of the State during July and August due to extremely dry weather. During early June, a floodwater species, *Psorophora confinnis*, was troublesome to residents at Rock Hall, Kent County. Residents of the Eastern Shore, and in southern Maryland generally, experienced only minor outbreaks of *Culex* spp. and *Aedes* spp.

Several genera and species of mosquitoes were involved in *MASSACHUSETTS*. The season as a whole was not a bad one. The spring brood of *Aedes* spp. produced at least an average hatch, but the subsequent weather might have been less favorable for migratory flights. The summer season seemed to be less favorable than usual for production of the floodwater mosquitoes in Massachusetts. They require several periods of heavy rainfall separated by dry periods for maximum production. Salt-marsh mosquitoes were sometimes in outbreak proportions northward from Gloucester, Essex County, but were apparently fairly well controlled by antimosquito programs elsewhere in the State. In *CONNECTICUT*, mosquitoes were moderately abundant although the season was drier than normal. Activity was average in the spring and summer in *RHODE ISLAND*, but declined earlier than usual in the fall. Unspecified mosquitoes were somewhat more troublesome than usual in *NEW HAMPSHIRE*, and *Aedes* spp. and *Culex* spp. were troublesome outdoors throughout the summer in *VERMONT*. Apparently larger numbers than usual attempted to hibernate indoors in the latter State.

Populations of *Aedes vexans*, *A. stimulans*, *A. dorsalis*, *A. triseriatus*, *A. cinereus*, *Culex pipiens*, *C. restuans*, *C. territans*, *C. erraticus*, *C. salinarius*, *Anopheles punctipennis*, *A. quadrimaculatus* and *Psorophora confinnis* were low during 1962 in *OHIO*, based on records dating back to 1955. The most prevalent species in descending order were *Culex pipiens*, *C. salinarius*, *Aedes vexans*, *Culex erraticus* and *C. restuans*. Populations of other species were extremely low in Ohio. Total populations were approximately 50 percent less than in 1961 and 25 percent less than in 1957. Complaints during 1962 were the lowest in history. In *MICHIGAN*, *Culex* spp., *Aedes* spp. and *Anopheles* spp. continued to cause annoyance to homeowners and resort operators. Mosquito populations in *INDIANA* have caused an increasing interest in various parts of the State concerning community control operations and, in most cases, there has been little evidence of sound planning for such operations.

Mosquitoes were reported to be abundant in the northern and central portions of *WISCONSIN* in 1962. Populations began building up rapidly in those areas early in the season, but leveled off and were less noticeable after the beginning of July. NORTHERN HOUSE MOSQUITO (*Culex pipiens pipiens*) and *Aedes vexans* began increasing in the southern part of Wisconsin about the middle of August, but cool nights restricted activity and only a few complaints were received. In *MINNESOTA*, the first mosquito pupae were found in the Twin City area on April 26. Adults were still rare on May 10, but were common by May 25. Extremely heavy rainfall in May, 2-3 times greater than normal, resulted in high populations of *Aedes vexans*. Peak populations were reached about June 15. Single-brooded *Aedes* species, such as *A. dorsalis*, *A. fitchii* and *A. stimulans*, appeared to persist somewhat longer than normal. By the end of June, A. vexans was the predominant mosquito in both light trap and biting collections. Mansonia perturbans was collected in some areas in the latter part of June, primarily as a biter at dusk. By July 13, this species was second to A. vexans in biting collections. Heavy rains resulted in peak populations in late July and early August, with A. vexans continuing to be the dominant species. By mid-August, mosquito numbers began to decline.

Mosquito counts in NORTH DAKOTA were abnormally high over the entire State during 1962. Aedes vexans was the dominant species on man and A. dorsalis on cattle. Other troublesome species included Culiseta inornata, Culex tarsalis, C. territans, C. restuans, Aedes trivittatus and A. flavescens. In SOUTH DAKOTA, mosquito populations became abnormally high over the entire State during the last week of May. Much discomfort was caused to gardeners and to individuals trying to relax during the evening hours. The heavy population of mosquitoes was probably due to the wet spring and summer. Populations were similar in NEBRASKA. Considerable numbers built up early in the spring. An unusually high rainfall this past summer created very annoying populations late in the summer and early fall. Many vicinities participated in control programs. In KANSAS, late spring rains and other occasional showers throughout the summer allowed the temporary pool species, primarily Aedes vexans, Psorophora ciliata and A. triseriatus, to continue to be present until late fall. Mosquitoes were reported to be annoying in IOWA during late May and early June, and heavy rains during mid-July and September subsequently produced annoying populations. In MISSOURI, extremely high populations of various species of mosquitoes occurred throughout the State during the late summer and early fall. Annoying populations of Psorophora spp. were present in OKLAHOMA, especially in suburban areas after summer rains from mid-June through September.

Mosquitoes in COLORADO were so numerous in some irrigated pastures that milk production dropped in dairy herds. Culex spp. and Aedes spp. attacked man. Mosquitoes were abundant after summer rains in many areas of NEW MEXICO, and heavy populations occurred in and around homes in several areas of ARIZONA during the summer months. In UTAH, mosquitoes were more abundant and annoying than normal in the spring. Populations in NEVADA were higher statewide than for the past three years. In CALIFORNIA, occurrence was extremely variable over the State. A few local outbreaks associated with weather were severe for short periods of time. Subnormal populations of overwintering females occurred in the spring, and populations generally were lower than the five-year average. Aedes sierrensis was primarily a problem in the Sacramento County area. This mosquito is becoming an off-season nuisance due to sprinkler watering. In November, the heaviest mosquito situation ever recorded in the Sacramento and San Joaquin Valleys of California occurred as the result of heavy rains and springlike conditions. As a result of the weather, heavy hatches of Culiseta inornata occurred in November and were of considerable nuisance to hunters, as the mosquito prefers dogs and caused considerable distraction. In areas where mosquito abatement work was not done, there was considerable irritation to livestock, with the resulting weight losses. In ALASKA, mosquitoes were much more annoying to both men and livestock than in 1961, especially north of the Alaska Range.

FACE FLY (Musca autumnalis) was recorded in RHODE ISLAND for the first time in Kingston, Washington County, on June 25. In MAINE, it was reported present in moderate numbers on cattle in Cumberland County early in the season, but no further reports were received. Face fly was generally less troublesome in NEW HAMPSHIRE, but considered very severe in most of VERMONT. Face fly continued troublesome in MASSACHUSETTS with no completely satisfactory control. It caused annoyance during the spring to people working in yards and because of hibernation in homes. Face fly also continued to be a serious pest of cattle and horses in PENNSYLVANIA, and outbreaks of pinkeye in that State were attributed to this species. Populations in MARYLAND again caused considerable annoyance to beef and dairy cattle in the central counties although numbers were down slightly over 1961. Control in Maryland continues to be a difficult problem. In VIRGINIA, face fly is now known to occur in 47 counties. It caused considerable irritation to livestock in those areas in which it occurs and was also reported as being a nuisance as it entered homes to hibernate.

Face fly was reported from Caldwell County, NORTH CAROLINA, on May 21,for a new county record. Limited survey of some western North Carolina areas during August showed most serious infestations in areas observed in Ashe and Haywood Counties. Flies averaged 25 per animal in both counties. A few face flies were found as far east as Salisbury, Rowan County, but economic populations were not established at this location. A slight but not significant spread was recorded in SOUTH CAROLINA. Infestations in GEORGIA ranged from zero to forty per animal, with seasonal average 10 per animal. This insect has spread very slowly in Georgia. Two counties, Habersham and Lumpkin, had infestations for the first time in 1962. Surveys in ARKANSAS were negative.

Heavy face fly populations were observed over OHIO during the summer. Beef animals were severely infested due to ineffective control methods. Problems continued on the Lower Peninsula of MICHIGAN similar to those of 1960 and 1961. Counts of over 35 flies per face were uncommon. Face fly was present over most of INDIANA again in 1962. Populations remained fairly low throughout the west and central areas until late summer when abundant rains and warm weather resulted in environmental conditions suitable for a buildup. The eastern quarter of the State had high populations throughout the summer since rainfall conditions were more conducive to large populations there than over the rest of Indiana. In ILLINOIS, the first adult face flies of the season were observed on cattle April 10. By the end of April, herd averages ranged 0-13.8 (average 1.3) per face. Some individual animals were observed with as many as 33 flies per face. Populations were low until mid-June, but increased rapidly the latter half of June and in early July. By July 15, populations in the west and northwest districts varied 4-75 (average 25) flies per face, with many face flies clustered over the back and neck. High populations continued throughout July and August and caused much annoyance throughout the northern half to two-thirds of Illinois. Populations in the northwest district August 12-17 varied 2-70 (average 30.2) flies per face. Although the population on the faces of animals was no higher in 1962 than in previous years, there apparently was an increase in numbers on the backs and necks of animals, which indicated an increase in population. An extensive survey in southern Illinois did not reveal any new county records. An estimated 992,534 head of cattle were treated in 1962.

Face fly was the most important livestock insect in WISCONSIN in 1962, and it became numerous enough to become a pest of man as well. It began appearing in the southern part of the State the fourth week of May. Its presence was indicated, by reports, to be in such scattered areas of the State that it could be implied that distribution was general. There were further indications that face fly was particularly troublesome in Dunn, Grant, Iowa and Walworth Counties. The greatest number appeared to be present about the first week of August and a decline was noted by mid-September. In IOWA, adults were present on cattle in early May. The pest increased gradually until the week of July 8-14 when a sudden increase was noted. Herds of dairy animals had nearly 200 flies per animal; about 100 on the face and 100 or more on the back and sides. Although records are very incomplete in MINNESOTA, this species probably could be found throughout most of the State. Some severe infestations on cattle were reported in the southern part of the State.

Face fly counts were quite high in SOUTH DAKOTA, with densities as high as 25-30 per animal face. The first report in the spring of 1962 was on June 18 from Yankton County. This report does not constitute the first occurrence in the spring, since the populations had already reached the count of 10-15 on the face of each animal. Face fly generally covered the whole of South Dakota in

1962, even to the point of becoming a serious household pest in several localities. Adult populations per animal in NEBRASKA increased over previous years. Animals showed much more evidence of sore eyes over the State. Problems were much more severe. Face fly was collected in only a few additional KANSAS counties. Very few complaints were received about this species on cattle and/or being a nuisance around buildings in the fall. Activity in MISSOURI began 30 days earlier than in 1961, with first flies observed on cattle in the central area April 23 and first larvae collected on May 2. Light populations of 2-18 flies per animal were present in central and northern areas in mid-August, and some moderate populations of 5-24 flies per animal were reported during late August and September. The last flies found in the field during 1962 were collected October 31. There were no reports of overwintering flies causing a problem. In COLORADO, face fly was very numerous around cattle in feedlots and on pastures; there has been a high incidence of pinkeye. Face fly was found for the first time in the following WYOMING counties: Johnson, July 26; Fremont, August 14; Niobrara, August 21; Sheridan, September 5; and Carbon, September 6. New infestations were found in counties that had reported infestations for the first time in 1961, suggesting a rapid movement and spread of this insect in Wyoming. So far, infestations have been reported only in the eastern half of the State, except for one very light infestation in Fremont County.

HOUSE FLY (Musca domestica) became heavy as the season progressed in NEVADA and was more numerous later in the fall than usual. It was common and/or abundant during 1962 in UTAH, and large populations were an extreme annoyance to livestock herds throughout WYOMING. Homeowners in the latter State were extremely bothered in the fall by movement of flies into homes in search of adequate winter habitat. House fly was very numerous around cattle in feedlots and on pasture in COLORADO, and it was very abundant in the Espanola Valley areas of NEW MEXICO during July where it was very annoying to man and animals. Medium to heavy populations of house fly occurred statewide in ARIZONA and were especially troublesome during the late summer and fall. In CALIFORNIA, house fly populations were generally light in most areas all year. An unusual occurrence of house fly adults lasting about three weeks in the fall caused many homeowner complaints.

Light house fly activity occurred by late February in OKLAHOMA, but populations remained low until mid-May when counts increased and flies became more pronounced. Counts remained steady until mid-July when populations started to decline. For the remainder of the season, activity fluctuated but did not reach the June-July peaks. By mid-December, only occasional flies were observed in sheltered areas of Oklahoma. Normal numbers were present in KANSAS and average to lower-than-usual numbers were observed in LOUISIANA. Low to moderate populations of house fly were present in NEBRASKA until mid-September when extremely high populations caused much annoyance. Populations were relatively low during 1962 in NORTH DAKOTA. Numbers increased slowly in WISCONSIN until house fly had reached a peak population during midsummer, but it was less of a nuisance than in 1961. In INDIANA, house fly built up to high populations early in the summer due to very warm conditions in May. This species was extremely abundant around barns where press of spring planting prevented carrying out proper sanitation practices. Populations dwindled during the summer to normal levels and remained normal for the remainder of the season. Problems caused by this fly in MICHIGAN continued a downward trend. Populations in OHIO were moderate compared with previous years. Apparently, chemical spray programs are contributing to effective controls. House fly was troublesome throughout the summer in VERMONT, and infestations were heavy as usual in GEORGIA.

HORN FLY (Haematobia irritans) was unusually heavy in some areas of PENNSYLVANIA, and the pest was again a serious problem on unprotected beef and dairy cattle in all sections of MARYLAND. During July, in Dorchester County, Maryland, counts ranged from 25 to 400 per head. Light to medium infestations occurred in several VIRGINIA counties; and infestations in GEORGIA ranged 0-2,000 per animal, with an early season average of 30 per animal and a late season average of 90 per animal. Average to lower-than-usual populations were present in LOUISIANA, and infestations in ARKANSAS were as heavy or heavier than in 1961. Some counts in the latter State ran as high as 1,000 per cow late in the year.

Horn fly continued to be a pest of untreated beef herds in MICHIGAN. The pest was present in large numbers on untreated cattle during the summer throughout the northern half of INDIANA after a dry period in the spring had prevented an early buildup. Areas with normal rainfall in Indiana had many flies even early in the season. Populations in 1962 showed a slow buildup and only one peak, which occurred late in the summer, compared with a normal early peak, a reduction during midsummer and another peak in the fall. Horn fly increased rapidly in May and June in ILLINOIS. In late June and early July, it was causing much annoyance to cattle. Populations during June 24-29 were 15-1,000 (average 160) per animal in the central district; 0-1,000 (average 148) in the west-southwest district; and 0-600 (average 83) in the east-southeast district. Populations declined the latter half of July and August in Illinois when averages of 20 to 40 per animal were present in eastern and southern areas. In IOWA, populations of horn fly ranged zero to 10 per animal in the eastern area in late May. They became a major annoyance to cattle in mid-June when counts ranged 50 to 500 (average 200) per animal on beef cattle in Monona and Harrison Counties. Numbers continued to increase on pasture cattle throughout the month. Populations in MISSOURI were about the same as in 1961. It was again one of the most important problems on cattle in the State. Populations ranged 30-400 per head on untreated cattle throughout Missouri. The heavier populations were present during early to mid-July. Populations began declining in late July and early August, and the fly was no longer an economic problem by mid-August.

Horn fly adult counts ranged 10-5,000 per animal in NEBRASKA. Low counts existed prior to mid-June, then increased sharply and reduced to lower levels in mid-September. Horn fly was abundant on NORTH DAKOTA cattle in some instances. The fly started to increase in early spring in KANSAS and continued to be a pest until fall. Light populations were active in early April in OKLAHOMA, with a general buildup in late April. After a buildup of 400-600 per head on cows in many areas of the State during mid-May and June, counts started to decline in late June and remained generally light throughout July and August. Counts started to increase again in September, with a general decline in late October. Populations continued at a low level until mid-December. Horn fly was a commonly reported pest of livestock in TEXAS, and populations were generally heavy statewide in NEVADA. Approximately normal numbers were observed in UTAH.

STABLE FLY (Stomoxys calcitrans) populations were again high and extremely annoying to man and animals in several tidewater areas of MARYLAND. Only a few herds were observed to be bothered by large numbers in MICHIGAN, but the pest was moderate to heavy on cattle in OHIO despite control programs. Many cattle were still under attack in late autumn in the latter State. Stable fly was present in normal numbers throughout the year in INDIANA, becoming a pest locally where bedding was removed infrequently. The fly was first observed on April 11 in ILLINOIS. Populations were low through May and early June in that State and then increased rapidly. By June 15, there were 0-50 (average 8) flies per animal. Populations were high through July and August and caused much annoyance to cattle. During August 5-10, there were 4-38 flies per animal in the east district; and during August 12-17, there were 4-44 (average 15.8) flies per animal in the northwest district. There were 0-45 flies per animal in the west-southwest district, but only 0-16 (average 2.1) per animal in the southwest and southeast districts during August 22-27. An estimated 1,888,518 head of cattle were treated for this and other species of biting flies in Illinois in 1962. Stable fly was annoying to livestock in IOWA by late June.

Stable fly ranged 9-15 per animal during July in northern and central MISSOURI. These populations decreased to 2-5 per animal by mid and late August. Stable fly presented its usual problem to livestock production in ALABAMA, and average to lower-than-usual populations were present in LOUISIANA. Light populations became active during the latter part of April in OKLAHOMA, with activity continuing through early December. Population peaks in Oklahoma were reached during June and again in September. Stable fly started in early spring in KANSAS and continued to be a pest until fall. Overwintering adults and first-generation larvae were found in late May in Lancaster County, NEBRASKA. Populations throughout the season were moderate to severe in this State, causing much annoyance to cattle. The pest was very numerous around cattle in feedlots and in pastures in COLORADO. Numbers were moderately abundant in eastern NORTH DAKOTA during 1962, and the pest was reported heavy in the southwest district of MINNESOTA. Approximately normal numbers were present during 1962 in UTAH.

NORTHERN CATTLE GRUB (Hypoderma bovis) infested only a few domestic cattle in ALASKA in 1962. Both this species and COMMON CATTLE GRUB (H. lineatum) were present at about their usual population level in WASHINGTON; about 8-10 grubs per head in untreated herds. Both species were still among the worst pests of cattle in WYOMING, as was the case in 1961, and about normal numbers were present in UTAH in 1962. Infestations of cattle grubs were spotty in NEVADA with increases noted in Elko and Washoe Counties and decreases noted in Humboldt and Lincoln Counties. Grubs appeared in animal backs later than usual in NEBRASKA. "Gadding" of cattle was first seen the week of June 22 in the sandhills area of Nebraska. Grub counts in esophagi of cattle in December showed light populations present. Cattle grubs were noted on cattle in McKenzie and Dunn Counties, NORTH DAKOTA, during late March and early April. In INDIANA, both common cattle grub and northern cattle grub continued to be serious pests of shipped-in feeder animals, and they were moderate pests of locally grown animals.

Common cattle grub occurrence on cattle in CALIFORNIA was about normal for the year. In ARIZONA, medium to heavy activity of this species occurred in all rangeland areas of the State. Populations averaging 30 grubs per animal were common in some untreated herds. Common cattle grub was commonly reported as a pest of livestock in TEXAS, and infestations were normal in KANSAS. High populations of this grub were present in most areas of OKLAHOMA from January to early February when counts began to decline somewhat. Grub activity continued until mid-March. First adult activity was observed in mid-March and continued until mid-May. First fall grub activity of the year was observed in late November and early December. Common cattle grub infestations in ARKANSAS were similar to those of 1961. Infestations ran 5-10 per head in untreated herds. Control is making good progress with 1.5 million animal treatments in 54 counties. Systemic materials were used. Common cattle grub presented its usual problem to livestock production in ALABAMA. Infestations ranged 0-40 and averaged 3-4 per animal in GEORGIA. Approximately 70 percent of the animals examined were infested. Emergence began about February 1 and was completed by March 15. Adults were active in south Georgia on February 25. Common cattle grub was present in many locations in SOUTH CAROLINA, and the pest was about normal on cattle in MARYLAND although development in the spring was at least two weeks behind that of previous years.

Larva of a BOT FLY (Cuterebra sp.) was taken from the upper eyelid of a child at Morganton, Burke County, NORTH CAROLINA, during the latter part of September. In ALASKA, most of the State's reindeer and caribou were heavily infested with a REINDEER WARBLE (Oedemagena tarandi); up to 1,000 were found in some animals. SNIPE FLIES were much more annoying to both man and livestock, especially north of the Alaska Range.

HORSE FLIES (Tabanus spp.) were very annoying in some local situations in MASSACHUSETTS, and a DEER FLY (Chrysops vittatus) became a nuisance in rural areas of RHODE ISLAND in August. Unspecified horse flies were somewhat less troublesome in *NEW HAMPSHIRE* than in 1961. In *MARYLAND*, *Chrysops* spp. and *Tabanus* spp. caused considerable annoyance to man and animals in the tidewater sections.

Several TABANIDS were very numerous in Onslow and Carteret Counties, *NORTH CAROLINA*, during the second week of June and plentiful in coastal counties during July and August. Species collected during early June in North Carolina included STRIPED HORSE FLY (*Tabanus lineola*), *T. nigrovittatus*, *Chrysops vittatus*, *C. vittatus floridanus* and *C. atlanticus*. Most complaints in *SOUTH CAROLINA* came from owners of saddle horses. Very heavy populations of *Tabanus* spp. and *Chrysops* spp. were reported on several thousand acres of pasture grazed by Brahma cattle of that State. The cattle were reported to have sustained heavy weight losses. *Tabanus* spp. presented its usual problem to livestock production in *ALABAMA*.

Horse flies in *LOUISIANA* were generally more abundant in the spring and early summer than they have been since 1959. Striped horse fly and *Tabanus vittiger* subsp. *schwardti* were the two most abundant species in lowland areas, while *T. fulvulvus* var. *pallidescens*, *T. molestus* and *T. zythicolor* were the most prevalent in upland areas. *T. nigrovittatus* was the most abundant species in the coastal areas of Louisiana. Populations of horse flies were generally lighter than in previous years during midseason and late season in Louisiana. *Tabanus* spp. infestations in *ARKANSAS* were lighter than in 1961 except for a flareup in May, and unspecified deer flies and horse flies were common livestock pests in *TEXAS* during 1962. The first *Tabanus* spp. activity for the season in *OKLAHOMA* was reported in late April, with the highest populations observed in the southeastern portion of the State. Counts elsewhere in Oklahoma were generally light to moderate, but heavy counts of up to six per head were present in the southeast until early October. *Tabanus* spp. were again at low population levels in *KANSAS* in 1962.

T. lasiophthalmus caused considerable concern throughout *MISSOURI* from late May to mid-June. It fed on undersides of udders of beef cattle in southwest, central and east central sections. Counts on undersides of some cattle and horses in east central area Missouri ranged from 5 to as high as 45 per animal. Other species on these animals at the same time included *T. equalis*, *T. trimaculatus* and *T. similis*. During early August, low numbers of *T. sulcifrons* and *T. calens* occurred in the northeast area. Also, high populations of *Chrysops* spp. were present from mid-May to mid-June in central, east central and north central Missouri.

Deer flies were reported active during August in northern forest regions of *MINNESOTA*; and in *WISCONSIN*, tabanids were troublesome in Bayfield, Chippewa, Door, Dunn, Iron, Marinette, Oconto, Pepin, Price, Shawano, Taylor, Washburn, Waukesha, Waupaca and Wood Counties. BLACK HORSE FLY (*Tabanus atratus*) and *T. sulcifrons* were at the lowest levels of the past three years in *INDIANA*. Black horse fly was common and widespread in *UTAH* and it caused at least normal annoyance to livestock. Horse flies in general were more abundant and/or more common in 1962, but deer flies were approximately normal in numbers and/or damage. In *NEVADA*, a DEER FLY (*Silvius pollinosus*) was heavy in southeastern Clark County during May.

SCREW-WORM (*Cochliomyia hominivorax*) eradication efforts are based on the sterile fly technique developed by research entomologists. Females that mate with sterilized males lay eggs that do not hatch. If enough sterilized males are systematically released to overwhelm the native flies, the native population quickly declines. If the release of sterilized flies is continued long enough, eradication of the species must result. The Southwest program, a cooperative effort, was started early in the spring of 1961. Each week 50 to 75 million screw-worm flies are being reared and made sexually sterile in special facilities at a United States Department of Agriculture laboratory constructed on the Moore Air Force Base near Mission, Texas. These are released over areas of southern and central Texas, southern New Mexico and northern portions of the Republic of Mexico. A barrier zone of sterile flies has been established and is maintained along the Mexican, Texas, New Mexico border to prevent reinfestation of the eradication area. Livestock producers, county agents, predator-control workers, sportsmen and other volunteer observers are cooperating by promptly reporting screw-worm cases found in domestic and wild animals. Cooperative surveys by USDA and Mexican Department of Agriculture personnel in northern Mexico evaluate the threat of screw-worms migrating through or into the sterile fly barrier zone. Inspection and quarantine activities along the Mexican border have been intensified, and animals found to be infested with the pest are rejected entrance into Texas.

The eastern half of the United States had fewer screw-worms during 1962 than in any year since the livestock pest invaded the region 30 years ago. Only one infestation was reported east of the Mississippi River, and this was found in an animal in Early County, GEORGIA, in late October, that came in with cattle that had just been shipped from the Southwest. In contrast, during 1961 more than 80 counties in 9 States east of the Mississippi reported nearly 700 confirmed screw-worm cases. The screw-worm population in the Southwest was the source of all these outbreaks. ARKANSAS was screw-worm free during 1962. Only two infestations were reported in LOUISIANA, along the State's western border. These States usually are invaded each summer by screw-worms. In 1961, for example, one-third of the counties in each of the two States reported screw-worm infestations. Nationally, during 1962, livestock producers in 340 counties in eight States reported screw-worm infestations to the U. S. Department of Agriculture. These infestations were positively identified as screw-worms from larvae and egg samples forwarded by producers.

Moderate to heavy numbers of unspecified WOOL MAGGOTS infested sheep in the San Luis Valley of COLORADO, and BLACK BLOW FLY (Phormia regina) was generally more abundant in UTAH than normal. In NEBRASKA, a BLOW FLY (Calliphora sp.) was active early in the spring in the southern fourth of the State.

SHEEP KED (Melophagus ovinus) was common throughout WASHINGTON as usual, and approximately normal in numbers and/or damage in UTAH. Heavy populations of sheep ked were present on sheep in COLORADO farm blocks; and the pest was abundant on sheep at time of shearing in Torrance, Lincoln and Guadalupe Counties, NEW MEXICO. Occasional reports of sheep ked were received in VIRGINIA, and heavy infestations were present on sheep in Cumberland County, MAINE.

BLACK FLIES were much more annoying in ALASKA than in 1961 to both man and livestock, especially north of the Alaska Range. They were abundant and causing considerable annoyance to livestock and humans in an area of Jerome County, IDAHO, the latter part of August. Black flies were about normal in numbers in UTAH. They were annoying in most of RHODE ISLAND in May and June and somewhat more troublesome throughout NEW HAMPSHIRE. Simulium spp. reports were general throughout the season in most affected areas of MAINE, and they caused considerable annoyance during the spring and summer months in many residences in four MARYLAND counties. Prosimulium sp. was occasionally reported in VIRGINIA. Simulium spp. caused problems in many resort areas in northern MICHIGAN, and they fed in ears of horses in west-central MISSOURI for three weeks in early May. S. venustum populations were heavy and common in NORTH DAKOTA, and they caused discomfort to man and livestock in the eastern portion of the State. Unspecified black flies were in outbreak numbers in IOWA in late May and early June.

A BITING MIDGE (Culicoides sp.) caused considerable annoyance to humans in the vicinity of Whitehaven, Wicomico County, MARYLAND. An outbreak of bluetongue, a virus disease of sheep, occurred in Custer and Powder River Counties, MONTANA, during August and early September of 1962. Biting midges of the genus Culicoides have been incriminated as the vector of this disease.

Very heavy populations of an EYE GNAT (Hippelates collusor) were a problem in some areas of Yuma and Graham Counties, ARIZONA, from April to November. In CALIFORNIA, Hippelates spp. were very light generally over the State.

An EPHYDRID FLY (Mosillus tibialis) bred in sewage sludge at Winston-Salem, NORTH CAROLINA, during mid-August,and adults were sufficiently numerous to bother homeowners in the near vicinity.

CATTLE LICE were variable in several northern CALIFORNIA counties. Light to medium populations, with an occasional heavy infestation, resulted from populations that were general since summer. Lice were more common in 1962 than in the last few years in California. An increase in the reports of lice on cattle occurred late in the season. In most cases, the species was not identified. Infestations in general were not heavy. Populations in NEVADA varied from area to area, but they were generally at the same level as during 1961. Approximately normal numbers and/or damage were present in UTAH. Light populations of several species of cattle lice were generally present on cattle throughout OKLAHOMA from January to mid-February, when populations increased considerably. Moderate to heavy activity continued through March and April in that State. First activity of the fall season was noted in early November and small numbers existed through December. Cattle lice were commonly reported pests of livestock in TEXAS, and various species were heavier during 1962 in ARKANSAS than in 1961. Light to moderate populations of unidentified species existed the first part of the year in NEBRASKA. An estimated 845,778 cattle were treated for lice and mange in ILLINOIS.

CATTLE BITING LOUSE (Bovicola bovis) and SHORT-NOSED CATTLE LOUSE (Haematopinus eurysternus) were annoying to cattle and calves in barns during the winter in ALASKA. These two species and LONG-NOSED CATTLE LOUSE (Linognathus vituli) were major pests of cattle in WASHINGTON and about normal in abundance. In GEORGIA, long-nosed cattle louse and cattle biting louse infestations were light to heavy, with most being light to moderate. Economic numbers of short-nosed cattle louse occurred on cattle in McKenzie County, NORTH DAKOTA; and this species and Solenopotes capillatus continued quite heavy in many WYOMING herds where they remain a problem of livestock throughout the State.

An estimated 238,896 sheep in ILLINOIS were treated for LICE and MANGE MITES.

HOG LOUSE (Haematopinus suis) infestations were reported heavy on hogs in Lea, Hidalgo and Bernalillo Counties, NEW MEXICO, and approximately normal numbers and/or damage were noted in UTAH. Infestations in OKLAHOMA were statewide from January through mid-March. First fall activity in that State was reported in mid-November. Heavy infestations occurred on hogs near Grandin, Cass County, NORTH DAKOTA, and moderate to heavy populations were common on swine during 1962 in OHIO, with the heaviest being on confined animals in the latter State. In ILLINOIS, an estimated 2,858,672 hogs were treated for LICE and MANGE MITES

HEAD LOUSE (Pediculus humanus capitis) was found on children in PENNSYLVANIA, and CRAB LOUSE (Phthirus pubis) was below average in abundance or importance in UTAH.

CHICKEN BODY LOUSE (Menacanthus stramineus) infestations were heavy in some areas of ARKANSAS. In NEW YORK, a very heavy infestation of this species was observed in the early spring, indicating that lice can be a winter problem. No reports of infestations by various lice have been made since last fall in New York. SHAFT LOUSE (Menopon gallinae) was the most common louse on chickens in ALASKA. Unspecified CHICKEN LICE were approximately normal in numbers and/or damage in UTAH.

FLEAS (Ctenocephalides spp.) were heavy on pets in Hall and Lancaster Counties, NEBRASKA, and CAT FLEA (C. felis) was a considerable pest in INDIANA homes during the latter part of the summer, based on the number of requests received. Complaints of Ctenocephalides spp. infestations in RHODE ISLAND were received from all areas in increasing numbers June through October, and many complaints of infestations on pets in homes were received in MASSACHUSETTS. In MARYLAND, more than the usual numbers of Ctenocephalides spp. were troubling cats, dogs and humans in several central and southern counties. FLEAS were occasionally reported in VIRGINIA. All species of fleas in CALIFORNIA were much lower than normal in general. Only a few instances of infestations occurred and these were usually cat fleas. STICKTIGHT FLEA (Echidnophaga gallinacea) was reported in DELAWARE for the first time when a heavy infestation was found on a commercial broiler flock at a farm in Sussex County. It also infested dogs at the same locality.

BLOODSUCKING CONENOSE (Triatoma sanguisuga) became of concern to residents in hill country of TEXAS. Medium to heavy populations of a BLOODSUCKING CONENOSE (Triatoma sp.) moved into areas of homes in some southeastern parts of ARIZONA during June and July. These insects are a problem when they gain entrance to homes as they bite inhabitants. In CALIFORNIA, two ASSASSIN BUGS (Triatoma protracta and Rasahus thoracicus) were quite prevalent and were reported during the summer biting children and adults. Late in the fall, an unusually heavy population of T. protracta occurred in many subdivision areas of California.

The principal WASP offender in CALIFORNIA was Vespula pensylvanica, which was a severe nuisance in many public areas and required treatment to allow picnic grounds, recreational areas and backyards to be used. VESPID WASPS were approximately normal in UTAH homes. WASPS and HORNETS were a problem about homes in NORTH DAKOTA, and were abundant late in the season in CONNECTICUT. During the late summer and fall in MARYLAND, wasps (Polistes spp.), YELLOW JACKETS and hornets were again extremely annoying to people around homes and recreational areas. In RHODE ISLAND, there were numerous, widespread complaints of Polistes spp. and Vespula spp. in late summer and early fall when nests and populations reached noticeable size. CICADA KILLER (Sphecius speciosus) was again annoying to people around homes and at recreational areas in MARYLAND during the late summer and fall.

PUSS CATERPILLAR (Megalopyge opercularis) was abundant in eastern VIRGINIA. It was first reported in NORTH CAROLINA the week of August 20 and several were received for determination during September. In SOUTH CAROLINA, puss caterpillar was probably less numerous during the past two years, but nevertheless there continued to be reports from physicians and others concerning the serious effects of this species to man. Puss caterpillar and SADDLEBACK CATERPILLAR (Sibine stimulea) were numerous during the fall in GEORGIA; many specimens were received for determination. Larvae of AMERICAN DAGGER MOTH (Acronicta americana) caused rash on several people who handled them in NEVADA.

AMERICAN DOG TICK (Dermacentor variabilis) was abundant and annoying in MASSACHUSETTS in 1962. It is becoming more common in areas of the State other than on Cape Cod and in the southeast. Reports of activity were received regularly in RHODE ISLAND from May through August, with isolated cases in September. It is now well established in Cumberland area of Providence County and can be considered distributed statewide. American dog tick was annoying in NEW JERSEY. In MARYLAND, the first specimen of the tick was seen on April 23, and numbers were prevalent in fields and wooded areas in most sections. It was occasionally reported in VIRGINIA. American dog tick populations were very high again during 1962 in MISSOURI, and annoying populations caused concern to personnel in the north-central and east-central areas of OKLAHOMA from late April through late July. The tick was reported to have been of particular concern in WISCONSIN early in the season in Ashland, Chippewa, Dunn, Eau Claire, Jackson, Monroe, Oconto, Sauk, Sawyer, Taylor and Washburn Counties; and it was abundant in northern wooded areas of MINNESOTA. American dog tick was abundant in grassy and wooded areas of NORTH DAKOTA; and heavy, spotted infestations in NEBRASKA caused annoyance to pet owners throughout the State. This tick was of more general occurrence in CALIFORNIA than in other years. It was found on humans in several instances. Also in California, many of the north coast counties experienced tick populations all summer and fall, probably the PACIFIC COAST TICK (D. occidentalis) and Ixodes pacificus.

WINTER TICK (Dermacentor albipictus) was a commonly reported pest of livestock in TEXAS, and heavy infestations were present through January in OKLAHOMA. The first fall activity in the latter State was observed in early October. Heavy populations existed on wildlife and other animals throughout the fall months in Oklahoma. Dermacentor sp. was a nuisance in COLORADO; and populations of ROCKY MOUNTAIN WOOD TICK (D. andersoni) were larger during 1962 in WYOMING than during 1961, particularly in the southern and northeastern portions. In PENNSYLVANIA, Ixodes cookei was very abundant on a dog. BLACK-LEGGED TICK (Ixodes scapularis) populations were heavy on wildlife and other animals in the eastern third of OKLAHOMA throughout the fall months. In RHODE ISLAND, black-legged tick was collected in Kingston, Washington County, May 1, and was not seen again until it began building up in the same area in mid-October.

LONE STAR TICK (Amblyomma americanum) was a commonly reported pest of livestock in TEXAS, as was GULF COAST TICK (A. maculatum). In OKLAHOMA, light populations of lone star tick were becoming active in the southeast in late February. Moderate to heavy infestations existed throughout the eastern third of the State through late June. TICKS in ARKANSAS, mainly lone star tick, were heavier than usual on untreated herds in the heavily wooded areas of the State. Lone star tick was very high again during 1962 in MISSOURI. An average of five nymphs and one larva were collected per drag beneath starling roosts in the central area of the State in mid-September.

BROWN DOG TICK (Rhipicephalus sanguineus) infestations continued to increase in Clark and Washoe Counties, NEVADA, and heavy populations were a problem around many ARIZONA homes where dogs were kept as pets. The tick was found in all areas of Arizona, but it attacked only dogs. General, light infestations of brown dog tick were reported for most of the year in CALIFORNIA, with a sudden increase in the early fall months. In TEXAS, complaints of infestations in homes and lawns were received from many areas of the State. Brown dog tick caused concern to dogowners and around homes in OKLAHOMA from mid-May into mid-November, and populations were high during 1962 in MISSOURI. At the Offutt Air Force Base, Omaha, Douglas County, NEBRASKA, moderate infestations occurred. Reports of kennel and home infestations increased in MASSACHUSETTS, and brown dog tick led two to one over other tick species submitted for determination in CONNECTICUT. There were periodic infestations over RHODE ISLAND, especially in the winter; and populations in homes over MARYLAND were above normal during the winter months, with five counties reporting infestations. Brown dog tick was heavy in many DELAWARE homes during 1962, but only occasional reports were received in VIRGINIA and in SOUTH CAROLINA.

CATTLE TICK (Boophilus annulatus) and SOUTHERN CATTLE TICK (B. microplus) reinfestations were found during the year on 21 different occasions in areas along the TEXAS-Mexico border under quarantine due to recurrent infestations. Approximately 2,400,000 animals were inspected for ticks in 1962.

EAR TICK (Otobius megnini) was a commonly reported livestock pest in TEXAS, and approximately normal numbers were noted in UTAH.

SHEEP SCAB MITE (Psoroptes ovis) was reported in 513 flocks of 36,744 sheep in 249 counties in 23 States in the calendar year 1962. The eradication program has resulted in eradication from many counties in several States. At the end of the year, 1,744 counties were "sheep scabies free", and 758 were actively engaged in eradicating the pest. Only 622 infested counties had not established an eradication program. In August 1960, when the program began, 1,689 counties had not established an eradication program, only 44 infested counties had, and there were 1,421 counties considered free of the pest. In 1962, approximately 13,000,000 animals were inspected on farms and ranches and 12,000,000 at public stockyards. CATTLE SCAB MITE (Psoroptes sp.) infested two herds of cattle in TEXAS and one in NEW MEXICO during 1962. No psoroptic cattle scabies has been reported since March 1962. Approximately 8,000,000 cattle are being inspected for this mite each year on farms and ranches and 20,000,000 at public stockyards.

NORTHERN FOWL MITE (Ornithonyssus sylviarum) was the most common mite on poultry in the Matanuska Valley of ALASKA. This mite was not the problem it has been in past years in CALIFORNIA. Very few incidences of infestations on fowl or annoyance to humans were reported. In NEW YORK, at least four poultry operations distributed among Tompkins, Cayuga, Chemung and Tioga Counties have, or recently had, infestations by this species. Severity runs from light-spotty to heavy on individual birds in a flock. This parasite is common in winter flocks in New York. Northern fowl mite infested a poultry yard in Kingston, Washington County, RHODE ISLAND, in 1962, and occasional reports were received in VIRGINIA.

TROPICAL RAT MITE (Ornithonyssus bacoti) was found on children in PENNSYLVANIA, and at least one verified report was received in SOUTH CAROLINA. This pest of rats has become a pest of residences in CALIFORNIA and quite annoying to humans. In a few cases, it is suspected that this mite was the cause of entomophobia in individuals in California.

CHICKEN MITES were approximately normal in numbers and/or damage in UTAH. The CHICKEN MITE (Dermanyssus gallinae) was heavy in some areas of ARKANSAS. It was especially harmful to replacement flocks in the upper Arkansas Valley area.

MUSHROOM MITE (Tyrophagus putrescentiae) became quite severe in one instance in CALIFORNIA where it was infesting a household and biting and irritating the residents. Physicians were consulted and the mite was missed, with the resulting diagnosis of a mental condition.

Also in CALIFORNIA, GRAIN MITE (Acarus siro) occurred in one poultry establishment where it infested several thousand chickens, and a LAELAPTID MITE (Haemolaelaps casalis) came to attention in 1962. Usually this laelaptid mite is associated with small rodents, but it was found in poultry establishments.

Heavy infestations of a DERMANYSSID MITE (Dermanyssus sp.) were reported in a residence in southeast MISSOURI. The residents received numerous bites until control was obtained. STRAW ITCH MITE (Pyemotes ventricosus) was abundant and severe in straw throughout INDIANA in the fall. Many complaints were received of attacks on man and fumigation of straw was necessary.

BLACK WIDOW SPIDER (Latrodectus mactans) was common over much of MONTANA and very abundant in McCone County. While this spider was of general occurrence throughout CALIFORNIA, there were no more than the usual number of inquiries concerning control during the year. There were very few instances of humans being bitten in State. Black widow spider was normal in numbers in UTAH. One female specimen was collected in a home in early April in Prince Georges County, MARYLAND.

A BROWN SPIDER (Loxosceles reclusa) was taken in fair numbers in Massac County, ILLINOIS, the week of May 14. This is a new county record in that State. Infestations of this spider around living quarters in OKLAHOMA caused considerable concern. Higher rate of findings is probably due to increased publicity concerning the species' danger.

A child living near Brady, Pondera County, MONTANA, was stung by a SCORPION during the summer. There were no complications. Heretofore, records of the presence of scorpions in Montana have been confined to Yellowstone and Musselshell Counties.

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HOUSEHOLD AND STRUCTURAL INSECTS

Highlights:

Several species of DERMESTIDS were a problem to homeowners in 1962. VARIED CARPET BEETLE appears to be increasing in Pennsylvania, and was more common as a household nuisance in Washington than in 1961. BLACK CARPET BEETLE is frequently encountered in Pennsylvania, and continues important in Massachusetts, Rhode Island and Connecticut. It was also important in Michigan, North Dakota, Colorado and Oregon. Several WEEVILS were invaders of homes and business establishments, as were DARKLING BEETLES, GROUND BEETLES and other coleopterons. COCKROACHES presented their usual problems. Resistance is suspected in many areas of California where control is difficult. BOXELDER BUG, EARWIGS and CLOVER MITE were invaders of homes in several areas and were the subject of numerous requests for control. MILLIPEDS and ANTS were also a problem to homeowners in several areas of the country.

EASTERN SUBTERRANEAN TERMITE continues to increase in importance each year in Massachusetts, and is the most important home structural pest in Connecticut based on requests for information. This termite continues as the most important structural insect pest in North Carolina. Subterranean termites were of considerable concern in Maryland, Ohio, Michigan, Inidana and Missouri; and were a common pest in many parts of Texas. Termites, probably WESTERN SUBTERRANEAN TERMITE, are rapidly becoming a serious problem in Wyoming, and western subterranean termite is a greater problem in Washington than in previous years. In Oregon, annual damage by this species is estimated in the tens of thousands of dollars. A number of other States also reported termite damage.

Many DERMESTID BEETLES were reported in PENNSYLVANIA; both LARDER BEETLE (*Dermestes lardarius*) and BLACK LARDER BEETLE (*D. ater*) were reported several times from households. VARIED CARPET BEETLE (*Anthrenus verbasci*) appears to be increasing in importance in that State. The continual presence of larvae of CARPET BEETLE (*A. scrophulariae*) caused considerable concern to a Pennsylvania housewife. Infestation of this latter species was traced to breeding in an accumulation of dead insects between walls. *Trogoderma inclusum* was found under similar circumstances in an attic where it bred on dead insects accumulated in insulating material. BLACK CARPET BEETLE (*Attagenus piceus*) is one of the most frequently encountered household pests in Pennsylvania. Black carpet beetle, carpet beetle and larder beetle are fairly common in VERMONT. Black carpet beetle continues as the number one fabric pest in MASSACHUSETTS, although it is not often associated with fabrics in the situations encountered by housewives. Black carpet beetle is a perennial pest statewide in RHODE ISLAND, and it is an important household pest in CONNECTICUT. Larder beetle damaged stored food in a home in Allegany County, MARYLAND, and throughout the year *Anthrenus* spp. and *Attagenus* spp. larvae and adults caused considerable annoyance and damage to fabrics in many homes in all sections of the State. Varied carpet beetle was reported more often than any other species of carpet beetle in NORTH CAROLINA; however, the number of reports was small.

Black carpet beetle continues to be one of the major fabric pests in MICHIGAN. *Anthrenus* spp. are also serious pests in that State as indicated by the number of samples submitted for identification. There were numerous instances of black carpet beetle in homes in NORTH DAKOTA. This dermestid beetle was also a nuisance and destructive in COLORADO where it infested dry cereals and foodstuffs in homes. Varied carpet beetle is more common as a household pest in WASHINGTON than it was in 1961; it is found throughout the State. In OREGON, carpet beetles, primarily black carpet beetle, are frequently a problem in homes. Dermestid beetles continue to be the most important household insect problem in MONTANA. FURNITURE CARPET BEETLE (*Anthrenus flavipes*), *Trogoderma sternale* and *Novelsus* sp. attracted attention of homeowners in several areas of TEXAS.

WEEVILS, primarily a JAPANESE WEEVIL (*Calomycterus setarius*), but including STRAWBERRY ROOT WEEVIL (*Brachyrhinus ovatus*) and CLOVER ROOT CURCULIO (*Sitona hispidula*), caused considerable concern in scattered locations in WISCONSIN. These weevils entered homes and became serious household pests. One report from Dane County, Wisconsin, indicated an entire wall of a building covered by *C. setarius*. Infestations appeared to be more prevalent than in 1961, being most noticeable in the light-soiled areas and around newer housing developments. Another weevil (*Sciaphilus asperatus*) invaded homes in northwestern Wisconsin. Strawberry root weevil adults invaded homes in NORTH DAKOTA, and on several occasions adults were noted crawling on walls, ceilings and furniture in homes. Both strawberry root weevil and *B. cribricollis* were pests in CALIFORNIA residences in areas where these weevils occur in gardens, and *Hypera brunneipennis* has become a household invader in coastal California where it now occurs. BLACK VINE WEEVIL (*B. sulcatus*) was frequently a problem in OREGON homes. *Trachyphloeus bifoveolatus* became a household nuisance in western WASHINGTON localities during the spring. Reports of wider distribution of this weevil beyond the Puget Sound area are noted. A weevil (*B. rugosostriatus*) entered a home in Bristol, Bristol County, RHODE ISLAND, in August. This is the first example of this species in the State. Determination was confirmed by R. E. Warner. *Calomycterus setarius* invaded homes in Smithfield, Providence County, and Usquepaugh, Washington County, Rhode Island, in early July.

ASIATIC OAK WEEVIL (*Cyrtepistomus castaneus*) was taken for the first time in INDIANA in Jennings and Jackson Counties. Great numbers of this weevil were found invading houses. It was also taken in Harrison County in sweep samples from alfalfa. There were several reports of Asiatic oak weevil creating a nuisance in VIRGINIA in homes and motels after being attracted to lights during the summer and early fall.

DARKLING BEETLES were a nuisance in many locations in CALIFORNIA where adults of *Blapstinus* sp. and *Metaponium* sp. invaded buildings. *Eleodes* sp. infested homes in Lyon County, NEVADA. CONFUSED FLOUR BEETLE (*Tribolium confusum*) infested dry cereals and foodstuffs in COLORADO homes. There were numerous instances of *Tribolium* spp. presence in many NORTH DAKOTA homes. RED FLOUR BEETLE (*T. castaneum*) was a common inhabitant of prepared food mixes in ALASKA.

A GROUND BEETLE (*Harpalus* sp.) invaded cellars in RHODE ISLAND; it was noted in Coventry, Kent County, and in North Kingstown, Washington County, in mid-July. *Bembidion* sp., *Pterostichus* sp. and other species were very numerous in PENNSYLVANIA, particularly in basements and garages. Undetermined species of ground beetles became household pests in TEXAS where they were attracted to lights in Tarrant County. *Calosoma* spp. infested homes and motels in Lyon and Mineral Counties, NEVADA, and were unusually abundant during 1962 in CALIFORNIA because of heavy cutworm populations. In some cities in southern California, great numbers of this ground beetle have invaded homes, small business establishments and civic buildings. Another ground beetle, TULE BEETLE (*Agonum maculicolle*), annually becomes a household pest in California for a period of about a month during the summer. In 1962, many complaints were received. Use of an outside light to draw the adults away from the residences has been helpful.

ELM LEAF BEETLE (*Galerucella xanthomelaena*) was only occasionally troublesome in VIRGINIA when it entered homes to hibernate. Homeowners in several central and western counties in MARYLAND were annoyed by this species. Both elm leaf beetle and LOCUST LEAF MINER (*Xenochalepus dorsalis*) invaded homes in PENNSYLVANIA. Adults of COLORADO POTATO BEETLE (*Leptinotarsa decemlineata*) became a nuisance around buildings in RHODE ISLAND in September. In NEVADA, elm leaf beetle adults migrated into homes in Washoe County in August, in Lancaster County homes in late August and in homes in other counties in September. Adults of elm leaf beetle have been the subject of complaints since mid-June in INDIANA; many adults entered houses even from the first-generation population.

Both DRUGSTORE BEETLE (Stegobium paniceum) and CIGARETTE BEETLE (Lasioderma serricorne) were commonly reported in VIRGINIA infesting stored products in homes. Cigarette beetle was reported several times in PENNSYLVANIA as a household pest. This anobiid beetle was also noted as a pantry pest in RHODE ISLAND throughout the State. Drugstore beetle damaged stored foods in homes in COLORADO and OREGON.

Four cerambycid beetles, ELM BORER (Saperda tridentata), RED-HEADED ASH BORER (Neoclytus acuminatus), RUSTIC BORER (Xylotrechus colonus) and Phymatodes testaceus entered homes in PENNSYLVANIA by way of fireplace wood. BLACK-HORNED PINE BORER (Callidium antennatum var. hesperum), rustic borer and other cerambycid beetles emerged from firewood in homes in central MARYLAND during the spring.

SAW-TOOTHED GRAIN BEETLE (Oryzaephilus surinamensis) was noted as a pantry pest in all parts of RHODE ISLAND. A significant increase in reports of infestations in homes was noted in MASSACHUSETTS. This is an important household pest in CONNECTICUT. Saw-toothed grain beetle infested a variety of stored products in homes in MARYLAND, OHIO and OREGON.

Other coleopterous pests included a BARK BEETLE (Gnathotrichus materiarus), which entered homes by way of fireplace wood, and BEAN WEEVIL (Acanthoscelides obtectus) in PENNSYLVANIA, where they were reported several times as household pests. This latter species also infested dry cereals and foodstuffs in homes in COLORADO. A SPIDER BEETLE (Mezium affine) heavily infested a hotel in Clark County, NEVADA. Numerous reports of larvae of a SOLDIER BEETLE (Chauliognathus pennsylvanicus) were received in VIRGINIA; larvae entered homes throughout the State in October and November.

BROWN-BANDED COCKROACH (Supella supellectilium) is the most numerous species on military bases in ALASKA; now more important than the GERMAN COCKROACH (Blattella germanica). Brown-banded cockroach was reported as a problem in homes in Whitman and Chelan Counties, WASHINGTON. This cockroach is reported from new areas of OREGON each year. Several species of cockroaches were common in CALIFORNIA where household infestations occurred all year. Cockroach infestations are becoming more common each year and require considerable commercial and homeowner control. Resistance to insecticides is suspected in many areas where control is difficult. Populations of several cockroach species were slightly above normal in NEVADA during 1962. Both brown-banded cockroach and ORIENTAL COCKROACH (Blatta orientalis) were more abundant and/or more damaging than normal in UTAH in 1962. Both species were also a nuisance in COLORADO. House infestations of German cockroach were reported from Gallatin and Park Counties, MONTANA. The usual number of questions concerning cockroaches were received in KANSAS. Populations were scattered throughout the State of NEBRASKA. In RHODE ISLAND, local infestations of brown-banded cockroach and oriental cockroach were reported. German cockroach was the most predominant cockroach species submitted in CONNECTICUT during the year. Brown-banded cockroach continued as a serious household pest in DELAWARE, especially in New Castle County, during the past 2-3 years. German cockroach and brown-banded cockroach were especially troublesome in many residences and business establishments over the State of MARYLAND. Both species are commonly reported in VIRGINIA as well.

CRICKETS are periodic household pests in CALIFORNIA where Gryllus spp. do considerable damage. Summer infestations were quite widespread over the State. A late invasion into homes and business establishments occurred at the end of October as the result of flooding rains in northern California. Gryllus sp. was more numerous in KANSAS than normal around homes and other buildings. An unusually heavy population of Nemobius fasciatus invaded residential areas of the eastern half of NEBRASKA in August. HOUSE CRICKET (Acheta domesticus) occurred as a localized but very severe invasion in the town of Waverly, Morgan County, INDIANA, during early June. Extensive treatment of yards and nearby dump finally gave control. In MARYLAND, crickets entered several homes in Anne Arundel, Baltimore and Prince Georges Counties, during August. CAMEL CRICKETS (Ceutophilus spp.) occasionally were found in home basements in VIRGINIA.

BLOW FLIES became especially annoying in homes in ALASKA when Calliphora spp. emerged from hibernation in April. Annoyance continued until freezeup. Complaints of blow flies associated with muscid flies resulted from late summer concentrations in institutional kitchens in Washington County, RHODE ISLAND. Blow flies were abundant in CONNECTICUT in the fall. CLUSTER FLY (Pollenia rudis) was troublesome in many homes in VERMONT. Occasional reports of a MOTH FLY (Telmatoscopus albipunctatus) infesting home basements in VIRGINIA were received. FACE FLY (Musca autumnalis) also entered homes in Virginia where it occasionally became a nuisance. Overwintering of face fly in homes in MINNESOTA was reported from at least six counties during the winter of 1961-62. Face fly generally covered the whole State of SOUTH DAKOTA even to the point of becoming a serious household pest in several localities. More evidence of adult face fly overwintering in homes has been noted in NEBRASKA in the fall.

HACKBERRY-NIPPLE-GALL MAKER (Pachypsylla celtidismamma) caused some defoliation of hackberry in KANSAS, but it was of primary importance as a source of annoyance to householders in October as it sought overwintering quarters in some homes in many towns of eastern Kansas. This species caused annoyance in eastern NEBRASKA during the same month. Numerous reports indicated adults of this species to be a household pest in the Lansing area, Ingham County, MICHIGAN.

A COREID BUG (Leptocoris rubrolineatus) has been a nuisance in many locations in CALIFORNIA for most of the year. Populations were about the same as in former years, however. Arhyssus scutatus and other coreid bugs have been particularly abundant this year and have been a nuisance in residences a good part of the year. A. scutatus is very prevalent in yards. Subdivisions in California suffered more from this pest than established residences.

BOXELDER BUG (Leptocoris trivittatus) was frequently a problem in homes in OREGON. This coreid bug invaded several thousand homes in the fall in UTAH, and was more abundant in 1962. It was a nuisance in COLORADO; and light, seasonal concentrations tended to be in the western half of NEBRASKA. Many homes were invaded in OHIO during the summer; boxelder trees in yards were always associated. Many reports in MICHIGAN indicated that the boxelder bug problem was similar to other years. There were many reports from the Lansing area, Ingham County. In RHODE ISLAND, several complaints of household infestations in September and October were made in Cumberland-Lincoln area, Providence County, where boxelder bug is a perennial problem. Boxelder bug invaded homes in PENNSYLVANIA again in 1962. Homeowners in six counties in MARYLAND were troubled in the spring and fall. This species was frequently reported entering homes to hibernate in VIRGINIA.

INDIAN-MEAL MOTH (Plodia interpunctella) was an important household pest in CONNECTICUT, RHODE ISLAND and PENNSYLVANIA. This phycitid moth again caused considerable concern in MARYLAND, where it infested several kinds of stored products over the State. It was commonly reported in VIRGINIA homes. Indian-meal moth often damaged stored foods in homes in OREGON. Other lepidopterous insects reported include WEBBING CLOTHES MOTH (Tineola bisselliella) in NORTH DAKOTA, where reports were common in 1962; and CASEMAKING CLOTHES MOTH (Tinea pellionella) in TEXAS, where it was a problem on woolens in several instances.

EUROPEAN EARWIG (Forficula auricularia) became noticeable in RHODE ISLAND about June 1, and it was found commonly throughout the State all summer. Complaints were fewer than usual; concentrations were highest in Newport County. European earwig was only occasionally troublesome in NEW HAMPSHIRE in eastern and southern counties. Another EARWIG (Labidura riparia) is definitely on the increase in SOUTH CAROLINA where exterminators report more complaints. This earwig was reported in a number of localities from Columbia, Richland County, and McCormick County, to the Atlantic coast in South Carolina. Both L. riparia and Doru lineare were very abundant in homes in several areas of GEORGIA. L. riparia was pestiferous in and around homes in nearly all parts of TEXAS. Many local areas of CALIFORNIA experienced nuisance invasions of European earwig. In many instances, control was poor and the problem became a recurring one.

CLOVER MITE (Bryobia praetiosa) continues to enter homes and other buildings in ALASKA; it causes considerable annoyance in the Anchorage area. Clover mite is frequently a problem in OREGON homes. In CALIFORNIA, this spider mite is another arthropod that annually invades residences in the spring and fall. In some instances, entire surfaces are covered and, when removal is attempted, the resulting staining is undesirable. Clover mite infested homes statewide in NEVADA during the winter and early spring. In UTAH, this pest invaded several thousand homes in the spring and was more abundant than in 1961. It was also a nuisance in COLORADO and NEW MEXICO where it entered homes during spring and winter. Reports of invasions into MONTANA homes have been received from Blaine, Fergus, Gallatin, Hill, Park, Petroleum, Powder River, Richland, Rosebud, Sheridan, Teton, Valley and Yellowstone Counties. Clover mite invaded homes in NORTH DAKOTA during the spring and in late October. Clover mite complaints in RHODE ISLAND were concentrated in April and early May. Scattered reports were received throughout the spring. Populations were very high in Providence, Kent and Washington Counties. Clover mite was an important pest in CONNECTICUT, and an outstanding migrating pest in PENNSYLVANIA. Clover mite in the latter State was general and very abundant on certain properties, most of which were homes only a few years old. This spider mite caused considerable annoyance in MARYLAND in March, April and May to many homeowners in six counties. It was frequently reported in homes in VIRGINIA where it entered to hibernate.

PODURID SPRINGTAILS became a household pest in Taylor County, TEXAS, when they were attracted to lights. Springtails were also a problem in CALIFORNIA as a result of rain and foggy weather. Extremely heavy populations were usually evident.

BOOKLICE (Liposcelis spp.) entered a PENNSYLVANIA home near unheated baseboards, causing considerable concern and costly control measures. Heat applied to the lower portions of the house eliminated these pests.

MILLIPEDS invaded many homes in New Castle County, DELAWARE, during late July. They became a nuisance in some sections of PENNSYLVANIA in the fall. HOUSE CENTIPEDE (Scutigera coleoptrata) and millipeds were noted in VIRGINIA; the latter frequently entered homes to hibernate. Milliped complaints in NORTH CAROLINA were mainly in the Piedmont. Millipeds caused considerable concern in WISCONSIN when they entered basements in the fall. In ILLINOIS, migrations into homes were noted in October. Reports from KANSAS indicate millipeds were not as numerous in 1962 as in 1961.

PILLBUGS and SOWBUGS were reported from MONTANA, RHODE ISLAND and TEXAS. In Montana, they were common in homes; in Rhode Island, they caused complaints from people opening summer homes in Washington County in May. These isopods were pestiferous in and around homes in nearly all parts of Texas.

LARGER YELLOW ANT (Acanthomyops interjectus) caused great concern among homeowners in INDIANA during September and early October. The rather massive swarming flights of this species have been mistaken for the activities of termites, and frequent inquiries have been received. Acanthomyops spp. caused considerable annoyance in MARYLAND and VIRGINIA. Larger yellow ant was of importance in CONNECTICUT. PAVEMENT ANT (Tetramorium caespitum) complaints in MASSACHUSETTS were more numerous during the cold months of winter. Tetramorium spp. were also important in CONNECTICUT and MARYLAND. ARGENTINE ANT (Iridomyrmex humilis) and some unidentified ants were reported as pantry nuisances frequently in CALIFORNIA; more frequently in 1962 than for several years. ANTS of various species were reported as household pests in NORTH DAKOTA, PENNSYLVANIA and NEW HAMPSHIRE.

A CARPENTER ANT (Camponotus herculeanus) is common in some buildings that are built of rough, spruce timbers in ALASKA and on utility poles creosoted only at the bases. There was an increase in the number of complaints of Camponotus spp. in CALIFORNIA homes, and they were of concern to many residents in areas of TEXAS. Camponotus sp. infestations in homes were common in NORTH DAKOTA. The number of Camponotus spp. submitted for identification in MICHIGAN was large, and many more requests for aids are received each year in MASSACHUSETTS, many in the winter. Activity of Camponotus spp. was average in RHODE ISLAND. BLACK CARPENTER ANT (C. pennsylvanicus) is the second most important home structural pest in CONNECTICUT,on the basis of requests for information, and the ant is one of the more commonly reported winged species of ants reported around homes in VIRGINIA.

CARPENTER BEE (Xylocopa virginica) caused considerable boring damage to homes and other buildings in GEORGIA. Complaints of excavating in two RHODE ISLAND homes were received in May. Carpenter bee was reported infesting soft wood in outbuildings in areas throughout MISSOURI; these reports were received in late May and early June.

A HORNTAIL (Urocerus flavicornis) emerged from beams of some new buildings built of white spruce in ALASKA. Sirex areolatus and other species of Sirex occurred in about the same numbers in CALIFORNIA as they did in previous years in new residences. Adult Sirex sp. emerged through plaster walls of newly built homes at Bel Air, Harford County, MARYLAND.

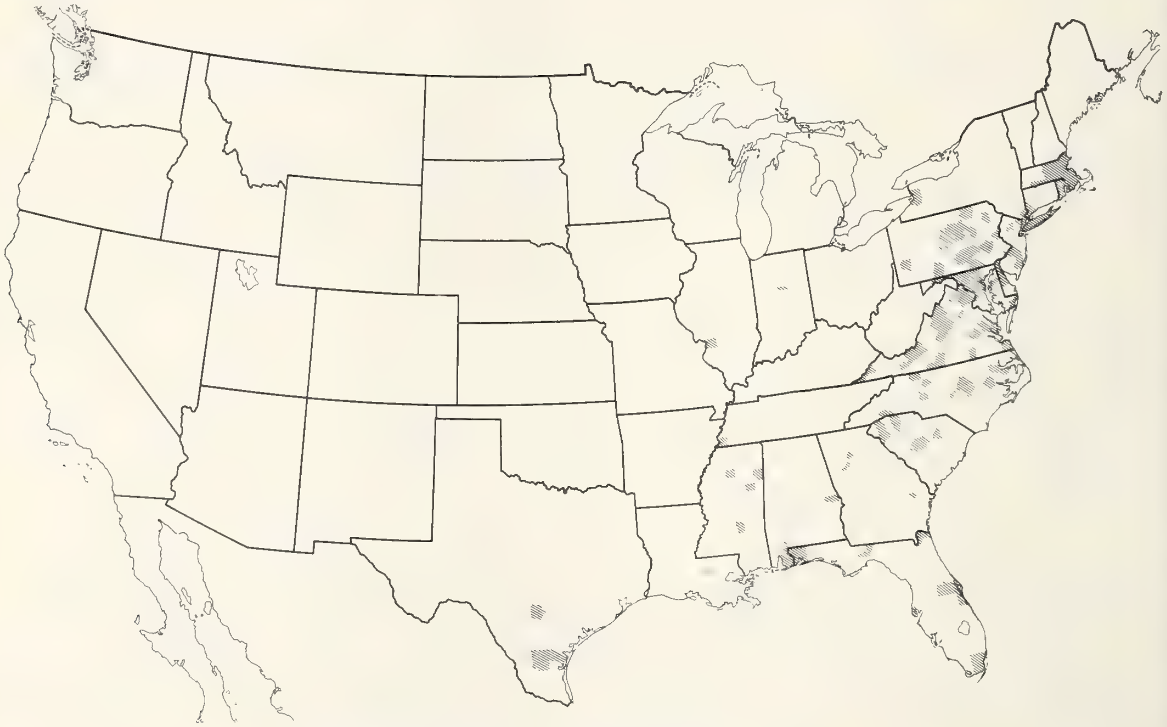
EASTERN SUBTERRANEAN TERMITE (Reticulitermes flavipes) continues to increase in importance each year in MASSACHUSETTS. The increase is associated with buildings on previously wooded areas and with type of construction. The first isolated reports of alates in RHODE ISLAND came from Cranston, Providence County, on February 12. Complaints and specimens of eastern subterranean termites were numerous from the entire State in April and May. On the basis of request for information, eastern subterranean termite is the most important home structural pest in CONNECTICUT. This species was abundant as usual in PENNSYLVANIA. Reticulitermes spp. again caused concern and losses to wood structures in MARYLAND in all sections. Eastern subterranean termite continues as the most important structural insect pest in NORTH CAROLINA. Eastern subterranean termite was found in numerous homes in the northeastern portion of OHIO; most of the infested homes received control measures. Reticulitermes spp. were of considerable importance in INDIANA during the spring swarming season. There were many requests for control information. There is evidence that preventive soil treatment for new construction is becoming better understood and accepted in Indiana. Reticulitermes spp. continued to cause structural problems in lower MICHIGAN, especially in the southern tier of counties and the shoreline counties. A report from La Crosse, WISCONSIN, indicated that a total of 76 new infestations of eastern subterranean termite was discovered during 1962. The first report of swarms of eastern subterranean termite in MISSOURI was received in early March. Reports of termite infestations were received from areas throughout Missouri, the majority of which came from southern areas. Eastern subterranean termite and a bark beetle (Scolytus sp.) are the most common structural pests in Missouri. Reticulitermes sp. was a common pest in wooden structures in many parts of TEXAS, and subterranean termites were destructive in COLORADO.

Populations of, and damage by, probably WESTERN SUBTERRANEAN TERMITE (Reticulitermes hesperus) were reported from all areas of WYOMING where it is rapidly becoming a serious problem to homeowners. Another SUBTERRANEAN TERMITE (R. tibialis) infested houses in Miles City, Custer County, MONTANA. Western subterranean termite is a greater problem in WASHINGTON than in previous years. This species is found throughout the State of OREGON where annual damage to wood structures is estimated in the tens of thousands of dollars. In NEVADA, infestations of both western subterranean termite and R. tibialis were slightly above normal during 1962. A ROTTENWOOD TERMITE (Zootermopsis angusticollis) is a very serious pest in western OREGON.

TERMITES caused about the usual amount of complaints in NEW HAMPSHIRE, and were the most important structural insects in VIRGINIA during 1962. Various species infested stored lumber and wood products in COLORADO. Subterranean termites, DAMPWOOD TERMITES and DRYWOOD TERMITES continue to be the main structural pests in CALIFORNIA. There were 240,962 termite inspections made in the State during 1962, resulting in finding 64,307 infestations. Termite occurrence followed normal patterns.

SOUTHERN LYCTUS BEETLE (Lyctus planicollis) was reported in mid-February in MISSOURI where it emerged from hardwood floors in a 12-year-old house in the southwest area. This species was noted in PENNSYLVANIA in lumber used in buildings. POWDER-POST BEETLE complaints in NEW HAMPSHIRE were about the usual number. In SOUTH CAROLINA, complaints and requests for information were above average in numbers. Six infestations of Lyctus spp. were reported in La Crosse, La Crosse County, WISCONSIN. Powder-post beetles, principally Lyctus sp., were common pests around wooden structures in many parts of TEXAS. Lyctus spp. have been active in furniture and house trim in many locations over the State of CALIFORNIA. Occurrence of these pests are about the same as in other years.

OLD-HOUSE BORER (Hylotrupes bajulus) was reported from six localities in SOUTH CAROLINA. This cerambycid beetle prompted only a few reports in NORTH CAROLINA. Several larvae of old-house borer were received in VIRGINIA for determination. Infestations in homes in MARYLAND were again common in most sections. Old-house borer was noted in lumber used for buildings in PENNSYLVANIA as were also two CERAMBYCID BEETLES (Elaphidion mucronatum and Smodicum cucujiforme). Cerambycid beetles infested stored lumber and wood products in COLORADO. In MICHIGAN, larvae of cerambycid beetles continued to be reported as structural pests of low magnitude.



Distribution of Old-house Borer

A BARK BEETLE (Micracis hirtellus) caused considerable trouble by boring into plastic and aluminum telephone cable west of Mount Vernon, Skagit County, WASHINGTON; this was associated with nearby willow trees as was a similar attack near Nisqually in 1953. Bark beetles infested stored lumber and wood products in COLORADO. WHARF BORER (Nacerdes melanura) infested a home in

Newport, Newport County, RHODE ISLAND, in July. FALSE POWDER-POST BEETLES were found in Clark County, NEVADA; *Polycaon stouti* infested furniture and *Dendrobiella aspara* infested beams in a home. BUPRESTID BEETLE specimens submitted in MICHIGAN indicated a few problems in 1962.

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